

Electricity Information Exchange Protocols (EIEPs)

EIEP1 standardised reporting methodology Decision

28 January 2020



Executive summary

We consulted on *Electricity information exchange protocols (EIEPs) – 2017 operational review* between August and September 2017. The paper sought submissions on proposals to amend the EIEPs.

Submitters were generally supportive of most of the proposed changes which proposed amendments to add clarity and consistency to the formats and business requirements, and to address a backlog of issues and alignment of terminology.

We subsequently issued a paper outlining final decisions relating to the EIEP functional specifications as a result of that consultation. The revised EIEPs are now referenced as version 11 (v11) which came into effect on 1 October 2019.

As a result of submissions, we decided we could not make decisions on two matters without further consultation.

We then issued a second consultation paper on 20 November 2018 seeking feedback on those two matters, a single standardised reporting methodology for EIEP1, and a delivery mechanism for EIEP5A.

This paper discusses a single reporting methodology for EIEP 1, the main themes from submissions, and the detail and rationale for our decisions. Decisions relating to a delivery mechanism for EIEP5A will be issued in a separate paper.

We have decided to:

- 1.1 replace the term NHH ICP with MM ICP (mass market ICP) and amend the ICP classifications¹ for the purposes of EIEPs 1, 2 and 3 to improve clarity and remove the opportunity for different interpretations
- 1.2 make 'replacement RM normalised' the single standardised EIEP1 reporting methodology for billing and volume information for MM ICPs for both conveyance and interposed arrangements
- 1.3 require traders and distributors to complete the transition from their current EIEP1 reporting methodology (if not 'replacement RM normalised') to 'replacement RM normalised' by 1 April 2021
- 1.4 retain EIEP1 as billed reporting methodology for reporting of billing and volume information for HHR ICPs.

We encourage traders and distributors to work together in good faith to:

- 1.1 update the distributor's use of system agreement, and its billing policies and processes, to support the changes to EIEPs 1 and 2; and
- 1.2 complete the transition as soon as both parties have the capability and capacity to do so.

¹ For the purposes of EIEPs 1, 2 and 3: (a) a MM ICP (mass market ICP) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half-hour metering information (or has specified time-blocked periods) for the application of delivery prices; (b) A HHR ICP (half hour ICP) means an ICP that is not a MM ICP.

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1 Background

- 1.1 EIEPs provide standardised formats and associated business requirements that support the low cost, standardised, and reliable exchange of information between:
 - (a) traders and distributors
 - (b) traders and their field services providers for non-network related customer faults and service requests
 - (c) retailers and consumers (or their authorised agents)
 - (d) retailers and any person who requests generally available retail pricing plan information.
- 1.2 We consulted on and issued a decision paper to make changes to EIEPs 1-12 to add clarity and consistency to the format and business requirements, and to address a backlog of issues and alignment of terminology. These changes came into effect on 1 October 2019.
- 1.3 As a result of submissions, we decided we could not make decisions on two matters without further consultation, being:
 - (a) the overwhelming preference of distributors and traders for a single standardised EIEP1 reporting methodology, and for that to be replacement RM normalised, at least for interposed arrangements
 - (b) a delivery mechanism for EIEP5A.
- 1.4 We then issued a second consultation paper *Second consultation on electricity information exchange protocols (EIEPs) – Proposal for a single standardised reporting methodology for EIEP1 and delivery mechanism for EIEP5A* on 20 November 2018, seeking feedback on these two matters.
- 1.5 This paper provides the detail and rationale for our decisions regarding the first of the two matters (EIEP1 reporting methodology), with the second matter subject to a separate decision paper.
- 1.6 The consultation paper outlined three options to support standardisation and efficiency in EIEP1 reporting for NHH ICPs:
 - (a) Option 1: mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for both interposed and conveyance arrangements (our preference)
 - (b) Option 2: mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements, and for conveyance arrangements mandating a default reporting methodology of replacement RM normalised with the right of the parties to agree to as billed
 - (c) Option 3: mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements, and for conveyance arrangements mandating a default reporting methodology of as billed with the right of the parties to agree to replacement RM normalised
- 1.7 We received 19 submissions, with 18 submitters agreeing there should be a single standardised EIEP1 reporting methodology for trader to distributor files for NHH ICPs.

- 1.8 All 18 submitters who agreed with the proposal for a single standardised EIEP1 reporting methodology also supported Option 1 which proposed the replacement RM normalised reporting methodology for NHH ICPs for both interposed and conveyance arrangements.
- 1.9 Appendix B includes tracked changes of the amended EIEP Overview document and EIEPs 1, 2 and 3.

2 Existing arrangements

- 2.1 As noted in paragraph 1.1, EIEPs provide standardised formats and associated business requirements that support the low cost, standardised, and reliable exchange of information.
- 2.2 EIEPs 1, 2, 3, 5A, 12, 13A, 13B and 13C are regulated under clause 12A.13 of the Electricity Industry Participation Code 2010 (Code).²
- 2.3 EIEPs 4, 5B, 6A, 6B, 7, 8, 9, 11 and 14 have been publicised by the Authority under clause 12A.15 of the Code and are voluntary (non-regulated). Traders and distributors may agree to comply with one or more of the non-regulated EIEPs when exchanging information to which the relevant EIEP applies, with agreement typically recorded in use of system agreements.
- 2.4 This paper addresses EIEPs 1, 2 and 3 only.
- 2.5 EIEP1 allows:
- (a) traders to provide billing and volume information to distributors at an ICP-price component code level:
 - (i) to support the billing of network charges
 - (ii) to meet operational information requirements of the distributor
 - (iii) to enable distributors to provide information to the extended reserve manager
 - (b) distributors to provide detailed billing information to traders at ICP-price component code level:
 - (i) to support their invoices for network charges
 - (ii) to enable traders to reconcile the network charges at detailed level.
- 2.6 For EIEP1:
- (a) there are currently four reporting methodology options for trader to distributor files for NHH ICPs. They are:
 - (i) incremental as billed normalised – file type ICPMMNM
 - (ii) replacement RM normalised – file type ICPMMRM
 - (iii) incremental RM normalised – file type ICPMMSP
 - (iv) as billed – file type ICPMMAB
 - (v) there is a single reporting methodology used for trader to distributor files for HHR ICPs. It is ‘as billed’, with a file type ICPHHAB.

² EIEP5A has been regulated but is pending an effective date.

- 2.7 EIEP2 allows:
- (a) traders to provide aggregated EIEP1 billing and volume information to distributors to support the billing of network charges
 - (b) distributors to provide aggregated billing information to traders:
 - (i) to support their invoices for network charges
 - (ii) to enable traders to reconcile the network charges at the level aggregated in the file.
- 2.8 EIEP3 allows:
- (a) traders to provide half hour metering information to distributors for HHR ICPs:
 - (i) to support the billing of network charges
 - (ii) to meet the distributor's network planning, pricing design, and regulatory information disclosure requirements
 - (iii) provide information to the extended reserve manager
 - (b) embedded network owners to provide half hour metering information to the parent network owner for LE ICPs.

3 EIEPs overview document

Consultation proposal

- 3.1 The Authority proposed amending the EIEP Overview document to reflect the appropriate option to mandate a single standardised EIEP1 reporting methodology for NHH ICPs.

Submissions and Authority's consideration

- 3.2 There were no comments from submitters.

Summary of Authority's decisions on EIEP overview document

- 3.3 For EIEP1 and trader to distributor files, reflect the Authority's decision to provide for:
- (a) a single standardised EIEP1 replacement RM normalised reporting methodology for MM ICPs³
 - (b) a single EIEP1 as billed reporting methodology for HHR ICPs⁴
- 3.4 For EIEP1 and distributor to trader files, provide for:
- (a) separate billing files for MM ICPs and HHR ICPs; or
 - (b) a single billing file containing all ICPs
- 3.5 For EIEP3:
- (a) minor amendment to clarify that EIEP3 is to be used for HHR ICPs.
- 3.6 The final table of EIEPs is included in Appendix A and EIEP Overview document v11.1.

³ For the purposes of EIEP1: (a) a MM ICP (mass market ICP) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half-hour metering information (or has specified time-blocked periods) for the application of delivery prices; (b) A HHR ICP (half hour ICP) means an ICP that is not a MM ICP.

⁴ Only used where required by the distributor additional to, or instead of, EIEP3 for HHR ICPs

4 Authority decisions on EIEP1

EIEP1 Detailed ICP billing and volume information

Consultation proposal

- 4.1 We proposed three options to support standardisation and efficiency in EIEP1 reporting for NHH ICPs:
- (a) Option 1: mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for both interposed and conveyance arrangements (our preference).
 - (b) Option 2: mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements, and for conveyance arrangements mandating a default reporting methodology of replacement RM normalised with the right of the parties to agree to as billed.
 - (c) Option 3: mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements, and for conveyance arrangements mandating a default reporting methodology of as billed with the right of the parties to agree to replacement RM normalised.
- 4.2 We sought feedback on the three options, including:
- (a) whether submitters agreed that in the interests of standardisation and efficiency we should mandate a single standardised reporting methodology for trader to distributor files for NHH ICPs, or otherwise the reasons why not
 - (b) if submitters agreed with (a), did submitters also agree Option 1 is the best option to implement, or otherwise which option was preferred and why.
- 4.3 We also asked:
- (a) if traders could not currently provide replacement RM normalised files, what was the estimated cost and time required to do so
 - (b) if the distributor's system did not have the capability to process replacement RM normalised files (including at least a revision month 3 file), or the distributor had not yet commenced developing the capability, what was the estimated cost and time required to do so
 - (c) submitters to provide comments on the proposal to set an implementation date, subject to a minimum lead time of 12 months from the date the Authority issues the decision paper adopting one of the options
 - (d) submitters to provide comments on the draft mark-ups of EIEPs 1 and 2 reflecting each of the options.
- 4.4 We noted that if we decide to proceed with one of the three options, we would:⁵
- (a) amend EIEPs 1 and 2 to reflect the appropriate option for NHH ICPs while retaining as billed for HHR ICPs
 - (b) amend the EIEP Overview document to reflect the appropriate option

⁵ We noted that proceeding with Option 1, 2 or 3 does not require a Code amendment.

- (c) set an implementation date, subject to a minimum lead time of 12 months from when the Authority issues a decision paper adopting one of the three options
- (d) propose drafting changes to the draft default distributor agreement to reflect the Authority's decision.

Submissions and Authority's consideration

4.5 This section summarises submitters' comments and the Authority's responses.

4.6 ICP classification

4.7 ICP classification is considered first to provide clarity and context for the balance of this paper.

4.8 Several traders raised concerns regarding the potential for different interpretations of the NHH ICP and HHR ICP classifications by traders and distributors, with the common theme being:

- (a) references to NHH ICPs and HHR ICPs are outmoded considering around 80 per cent of ICPs included in EIEP1 are HHR advanced metering infrastructure (AMI)
- (b) some distributors will use this classification to force retailers to supply mass market ICPs with time interval volume information using the EIEP3 format not required for monthly billing.

4.9 Suggestions included:

- (a) if an ICP classification is required in EIEP1/EIEP3 file formats, then it would be better to base it on something such as metering categories rather than data measurement resolutions
- (b) classification should be based on submission type NHH/HHR⁶
- (c) potentially 'residential consumer' could be used for the NHH ICP classification.

4.10 Authority's response:

- (a) metering categories would not provide a clear distinction without additional qualification:
 - (i) while meter type NHH can only be assigned to metering category 1 and 2, meter type HHR can be assigned to any metering category 1-6
- (b) submission type NHH/HHR would not provide a clear distinction without additional qualification:
 - (i) submission type NHH/HHR reflects that NHH/HHR submission information for the ICP will be provided by the trader to the reconciliation manager, not what is to be provided to the distributor
 - (ii) it is increasingly common for traders to submit HHR data to the reconciliation manager for ICPs with an AMI meter, and time blocked volume data to distributors in EIEP1 files for the same ICPs
 - (iii) 'residential consumer' would not provide a clear distinction without additional qualification as it does not include or describe which non-residential

⁶ The submission used the term "settlement type flag NHH/HHR", however it has since been confirmed this was an error and "submission type NHH/HHR" was intended.

consumers/ICPs must also be classified as a NHH ICP for the purposes of EIEP1.

- 4.11 We agree the current ICP classifications provide an opportunity for different interpretations.
- 4.12 We have considered replacing NHH with MM (mass market) as the file type already includes 'MM' (e.g. ICPMMRM).
- 4.13 Notwithstanding the Electricity Network Association's pricing guidelines,⁷ we have decided that replacing NHH with MM and providing definitions as follows will provide the clarity submitters are seeking for the purposes of EIEPs 1, 2 and 3:

For the purposes of EIEPs 1, 2 and 3:

- (a) *a MM ICP (mass market ICP) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half hour metering information (or has specified time-blocked periods) for the application of delivery prices*
 - (b) *a HHR ICP (half hour ICP) means an ICP that is not a MM ICP.*
- 4.14 **Mandating a single standardised EIEP1 reporting methodology for trader to distributor files for NHH ICPs**
 - 4.15 We received 19 responses to Q1 which asked whether submitters agreed (or disagreed) that in the interests of standardisation and efficiency we should mandate a single standardised EIEP1 reporting methodology for trader to distributor files for NHH ICPs.
 - 4.16 18 submitters agreed there should be a single standardised EIEP1 reporting methodology.
 - 4.17 One distributor disagreed on the basis:
 - (a) it considers use of the term 'reporting methodology' hides the real intent of the Authority which is to mandate the method by which the distributor calculates its bills for network charges
 - (b) this is a commercial transaction between the parties relating to how their various systems are configured
 - (c) from its experience with up to 24 traders on its network there are no issues with mixing reporting methodologies and therefore no advantage from mandating a single reporting methodology
 - (d) conveyance and interposed arrangements are quite different which means that mandating a single methodology for both arrangements is not an optimal outcome.
 - 4.18 Authority's response:
 - (a) we disagree with the claim that the term 'reporting methodology' hides the real intent which is to mandate the billing methodology
 - (b) traders do not determine the distributor's billing methodology, rather (as stated in the protocol) "distributors use data in the EIEP1 files and from other sources (e.g.

⁷ The Electricity Network Association (ENA) pricing guidelines for distributors recommends avoiding the term 'mass market' and 'ToU' on the basis they have different meanings for different participants, and do not provide a clear distinction for pricing

EIEP2, EIEP3, registry data, reconciliation manager reports) as applicable to their pricing and billing methodology to generate invoices for the fixed and variable network charges....”

- (c) while this distributor has said it is comfortable processing EIEP1 files based on the various reporting methodologies, other submitters have previously outlined significant issues arising from mixing methodologies⁸
- (d) we agree there are differences between conveyance and interposed arrangements, these were discussed in the consultation paper and Options 2 and 3 were provided to accommodate the differences

4.19 Preferred option of the three options identified

4.20 We received 19 responses to Q2 which asked whether submitters agreed with our preference for Option 1 (single standardised replacement RM normalised reporting methodology for networks with interposed and conveyance arrangements), or if not then which of the other Options 2 and 3 submitters preferred and why.

4.21 17 submitters agreed Option 1 is the best option to implement, with splits as follows:

- (a) distributors with an interposed arrangement:
 - (i) 8 agreed with Option 1
 - (ii) 1 disagreed with Option 1
- (b) distributor with a conveyance arrangement:
 - (i) has no strong preference
 - (ii) can process both as billed and replacement RM normalised files
- (c) traders who trade on networks with an interposed arrangement:
 - (i) 9 agreed with Option 1
- (d) traders who trade on the only network with a conveyance arrangement that requires EIEP1 data for MM ICPs to support billing of network charges:
 - (i) all 8 agreed with Option 1.

4.22 The following comments were provided by submitters who support Option 1:

- (a) agree with the Authority’s assessment that replacement RM normalised is the best fit for the industry more widely
- (b) will deliver the biggest efficiency gain for existing traders and distributors as maintenance and future replacement is only needed for one methodology
- (c) will reduce costs and remove a barrier to market entry as traders only need to develop one methodology.

4.23 As noted above one distributor disagreed with Option 1:

- (a) for the reasons outlined above in 4.17
- (b) because it considers there is a mistaken belief that the replacement RM normalised is superior to either of the incremental reporting methodologies for managing backdated changes, and that:

⁸ Refer [EIEPs 2017 operational review consultation paper](#) and [decision paper](#).

- (i) this is incorrect unless the wash-up sequence matches the entire reconciliation revision cycle of months 1, 3, 7 and 14
- (ii) if only the month 3 revision file is processed any backdated changes beyond month 3 will never be captured.

4.24 Authority's response:

- (a) we agree that if only the month 3 revision file is processed any backdated changes beyond month 3 will not be captured, however it does not take into consideration that:
 - (i) even if the parties agree to the minimum requirement, there are options available to distributors to also process revision month 7 and/or 14 files
 - (ii) a distributor may provide in its updated billing policies and processes that it may choose to process⁹ revision month 7 and 14 files in all cases, or in certain circumstances.¹⁰

4.25 One distributor with GXP pricing commented that all it required was accurate ICP level volume data over time, was not too concerned how it arrived (as billed or normalised), and was therefore comfortable with the status quo which may suit a new entrant trader as it understood as billed may be an easier build.

4.26 Authority's response:

- (a) we acknowledge as billed may be an easier build
- (b) replacement RM normalised should also be a relatively easy build for a new entrant trader as it must build capability to provide reconciliation manager submission information before commencing trading¹¹
- (c) we don't agree with retention of the as billed option for MM ICPs as it would defeat the purpose of mandating a single standardised reporting methodology.

4.27 One trader commented that the HHR as billed option may be a useful option for a trader only trading at ICPs with an AMI meter, at least as an interim solution.

4.28 Authority's response:

- (a) there is nothing to prevent a distributor agreeing to receive and process EIEP1 HHR as billed files (file type ICPHHAB) or EIEP3 files for ICPs with an AMI meter as an interim solution, but it is unlikely to be acceptable to all distributors.

4.29 One trader commented that:

- (a) several consumer trusts/distributors request and receive EIEP1 as billed files to enable them to calculate the income distribution¹² amounts payable to qualifying customers

⁹ 'process' in the context of EIEP1 replacement RM normalised files means process the files and produce an associated wash-up invoice for network charges.

¹⁰ for example, the distributor may provide in its billing policies and processes that it will only process revision month 7 and/or 14 if the wash-up would exceed a materiality threshold (which could be based on a \$ amount reflecting the volume difference times the weighted average variable delivery price for the relevant trader)

¹¹ A [new entrant] trader may also engage a third party to provide submission information to the reconciliation manager, and EIEP1 replacement RM normalised files to distributors.

¹² 'Income distribution' has the meaning set out in the draft Code amendment proposal issued 20 August 2019, clause 1 or Part 12A.1, Appendix A (Income distribution services).

- (b) if traders had to provide EIEP1 as billed files for income distribution purposes (in addition to replacement RM normalised files for billing purposes), the benefits of mandating a single standardised replacement RM normalised reporting methodology would be somewhat negated.

4.30 Authority's response:

- (a) We understand income distribution amounts are based on one or more of the following:
 - (i) annual kWh per ICP
 - (ii) a fixed amount per ICP
 - (iii) network charges billed to customers.
- (b) To enable a consumer trust/distributor to calculate income distribution amounts for eligible consumers/customers, data is normally sourced from one or more of the following:
 - (i) registry
 - (ii) EIEP1 files provided by traders to support billing of network charges
 - (iii) EIEP1 as billed files provided by traders to support billing of network charges or specifically for this purpose
 - (iv) customised files, for example:
 - 1. annualised kWh by ICP
 - 2. network spend by the customer for the year, and entry date, to enable the distributor to track network spend by the customer across multiple retailers if the customer has switched retailers
 - (v) distributor's billing database.
- (c) Two distributors who request EIEP1 as billed files have informally confirmed that as billed is preferred and makes life easier, but it would not be a showstopper if they had to rely on replacement RM normalised files.
- (d) One distributor which relies on a customised file of network spend for each customer for the 12 months up to the 31 January eligibility date each year has informally confirmed:
 - (i) it implemented a new system in 2018 and intends making enhancements after the 31/1/20 network discount but before the 31/1/21 network discount
 - (ii) the enhancements will remove the reliance on a customised file of network spend
 - (iii) it will then use EIEP4 to identify eligible customers, and EIEP1 replacement RM normalised for the other information it requires to calculate the income distribution amounts.
- (e) One distributor which relies on a customised file of annualised kWh per ICP could source the data from the monthly EIEP1 replacement RM normalised files, although traders may still agree to continue to provide the customised files.
- (f) We are satisfied that the billing and volume data provided in replacement RM normalised files, along with registry ICP data and possibly EIEP4 files, should

provide all the information required by a consumer trust/distributor to calculate income distribution amounts.

- (g) If a consumer trust/distributor requires customised information, it would expect to pay for the trader's reasonable costs.
- (h) We have decided not to retain EIEP1 as billed as an option for MM ICPs as there are other options available to consumer trusts/distributors for the purposes of income distribution services.

4.31 For the one network with a conveyance arrangement:

- (a) the distributor has not indicated a clear preference, but supports the proposal for a single standardised EIEP1 reporting methodology
- (b) all traders have indicated support for the single standardised EIEP1 replacement RM normalised reporting methodology for networks with interposed and conveyance arrangements, in effect confirming the benefits of a single reporting methodology outweigh the additional cost of vacant period network charges associated with trading on a network with a conveyance arrangement.

4.32 Given the overwhelming support of all but one distributor, and the support of all traders, we have decided to proceed with mandating the single standardised EIEP1 replacement RM normalised reporting methodology for MM ICPs for networks with interposed and conveyance arrangements.

4.33 We will amend EIEP1 as follows:

- (a) mandate replacement RM normalised for MM ICPs for networks with interposed and conveyance arrangements
- (b) provide a distinction between:
 - (i) replacement RM normalised to be used for billing and volume information for MM ICPs
 - (ii) as billed to be used for billing and volume information for HHR ICPs (if required by the distributor for billing of network charges)
- (c) replace 'NHH ICP' with 'MM ICP'
- (d) define 'MM ICP' and 'HHR ICP' as follows:

For the purposes of EIEPs 1, 2 and 3:

- (i) *a MM ICP (mass market ICP) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half hour metering information (or has specified time-blocked periods) for the application of delivery prices*
- (ii) *a HHR ICP (half hour ICP) means an ICP that is not a MM ICP.*
- (e) for distributor to trader files replace file type 'ICPNHH' with 'ICPMM'
- (f) split business requirement 13 into 13 and 14, with the following amended 13:

For trader to distributor files, unless a distributor has requested otherwise, and the trader agrees (and that agreement is recorded in writing):

- (i) *billing and volume data for MM ICPs must be provided in a separate EIEP1 file to that for HHR ICPs, with a file type of ICPMMRM*
 - (ii) *billing and volume data for HHR ICPs, if required by the distributor for billing of network charges, must be provided in a separate EIEP1 file to that for MM ICPs, with a file type of ICPHHAB."*
- (g) and the following 14:
- For distributor to trader files:*
- (i) *it is preferable that the distributor provides matching separate files for MM ICPs and HHR ICPs, however where this isn't supported by the distributor's systems or the parties have agreed to a single file, the distributor may provide a single file containing all ICPs. Each file must include the appropriate file type in the header record.*

4.34 Costs and benefits of proposed amendments

4.35 We received 17 responses to Q15:

- (a) eleven agreed with the costs and benefits
- (b) five provided no comment
- (c) one distributor provided some additional comments:
 - (i) development costs should not be underestimated
 - (ii) transitional costs are unquantified and open to wide interpretation, and could be avoided if the Authority mandated that the billing methodology change is to be free from financial penalties
 - (iii) benefits are likely to be limited as the distributor has observed little difference (except for one trader) between the volumes reported in EIEP1 files and the volumes in the reconciliation manager GR-050 files (summary of traded kWh)

4.36 Authority's response:

- (a) we are encouraged that 11 of 12 submitters who provided a response agree with the costs and benefits
- (b) we have discussed transitional arrangements below and have noted that in certain circumstances the parties may agree to waive a transitional settlement payment (which could go either way) where it is likely to be immaterial.

4.37 Developing capability and additional costs to provide (traders) or process (distributors) replacement RM normalised files

4.38 We received responses from nine traders and nine distributors.

4.39 Only one trader indicated it cannot currently provide replacement RM normalised files, however it is progressing a major system change that includes replacement RM normalised reporting functionality. This trader has informally confirmed in writing that it is on track to complete its migration by the end of 2020.

4.40 Another trader which currently provides replacement RM normalised files to several distributors anticipates a cost of \$10,000-20,000 to transition from incremental to replacement formats for the remaining distributors.

4.41 Eight of nine distributor submitters indicated they have capability to process replacement RM normalised files, or are upgrading their billing system with no additional costs to receive and process replacement RM normalised files

4.42 Four of the distributor submitters provided additional comments and estimated costs to develop full functionality:

- (a) one distributor can process initial ('I') files but cannot fully process full replacement 'R' files and has never tested the ability to handle partial replacement 'X' files. This distributor:
 - (i) uses Gentrack for billing, and estimated that to provide full wash-up functionality would cost \$100,000 for software and internal testing, and take around 12 months to implement
 - (ii) is aware several other distributors (also using Gentrack for billing) will be in the same position which would equate to an industry cost of close to \$1.0m
 - (iii) notes the true magnitude of costs and time involved for the change should not be under-estimated
 - (iv) considers the expense is not warranted based on its analysis of EIEP1 volumes compared to reconciliation manager GR-050 volumes (summary of traded kWh)
- (b) other distributors' comments include:
 - (i) an estimated cost of \$50,000 to develop the functionality in its Gentrack billing system and to process the invoicing detail through its financial system
 - (ii) an estimated cost of \$8,000-\$10,000 if it is required to produce fixed charge wash-up files
 - (iii) can currently process full replacement files, but not partial replacement 'X' files, and provided an estimated cost of \$50,000 to upgrade its billing system if it is required to receive and process 'X' files
 - (iv) there is no benefit from 'X' partial replacement files, only additional administration costs
 - (v) provision of 'X' files should be subject to agreement of the parties.

4.43 Authority's response:

- (a) the estimated development and testing costs provided by submitters are in the range we would expect
- (b) we have been informally advised that 'X' files have been provided and processed with the agreement of at least one trader and distributor, so the option needs to be retained:
 - (i) 'X' files can be useful but are rarely used
 - (ii) several submitters have said that development and administration costs associated with 'X' files may outweigh the benefits
 - (iii) it seems reasonable a trader should only be entitled to provide a 'X' file if agreed by the distributor, as there is always the option of a full replacement 'R' file

- (c) we have decided to amend EIEP1 to make the provision of a 'X' file subject to agreement of the distributor.

4.44 **Comments on draft mark-ups of EIEP1 v11.1**

4.45 Several traders made comments regarding the classification of NHH ICP and HHR ICP. This has been addressed elsewhere in this paper, with a decision made to replace 'NHH ICP' with 'MM ICP' and define 'MM ICP' and "HHR ICP' to improve clarity and avoid different interpretations.

4.46 One distributor made the following suggestions relevant to Option 1:

- (a) *Clauses 23 and 24*: words be added to the effect these clauses apply to NHH ICPs (now MM ICPs)

- (i) Authority's response: These clauses will be deleted as they are no longer required in their current form following the decision to mandate 'replacement RM normalised' for MM ICPs for networks with interposed and conveyance arrangements.

- (b) *Insert between clauses 24 and 25*: a new clause with words to the effect that for HHR ICPs traders must provide billing and volume information in accordance with the as billed methodology

- (i) Authority's response: We agree and will insert two clauses to make it clear that if the distributor requires billing and volume information for:

1. MM ICPs, traders must provide 'replacement RM normalised' files for network with interposed and conveyance arrangements
2. HHR ICPs, traders must provide 'as billed' files.

- (c) *File types*: Delete ICPMMAB if no longer an option

- (i) Authority's response: We agree and will delete.

4.47 One distributor is concerned that business requirement 34(e) in Option 1 will require it to produce a wash-up invoice and associated EIEP1 file for fixed network charges in the circumstances outlined in 34(e)(i)-(iv) when the change is zero or very small:

- (a) this distributor has GXP pricing for variable charges, and ICP pricing applicable to fixed charges
- (b) for the variable charges, it uses GR-040¹³ files and provides EIEP2 files in support of its initial and wash-up invoices, and has no issue with wash-ups for variable charges although suggests there should be no obligation to produce a \$0 wash-up invoice
- (c) for fixed charges, it uses EIEP1 files submitted by traders and provides EIEP1 files in support of its invoice, and is concerned it will be obligated to produce and provide a wash-up invoice and supporting EIEP1 file even if nothing has changed or the change is very small
- (d) currently the distributor does not wash-up fixed charges based on non-materiality

¹³ GR-040 is not available to distributors, but GR-250 has the same file format and is the 'electricity traded' report available to distributors containing only information for the relevant distributor's network

- (e) although the cost to provide this functionality would not be significant it considers the change would provide no real value to its business
- (f) the distributor also considers the current wording would allow a trader to provide a revision file for every month outside the reconciliation manager revision cycle, and expect the distributor to produce an associated wash-up invoice under 34(e)(ii).

4.48 Authority's response:

- (a) business requirements 34(d) and 34(e) in EIEP1 are intended to provide fair and balanced arrangements for both distributors and traders
- (b) where traders are required to provide EIEP1 files (business requirement 34(d)) and distributors are required as a minimum to process the files and produce an associated wash-up invoice (business requirement 34(e)), traders can reasonably expect to be able to reconcile the network charges at detailed level using the EIEP1 files provided by the distributor
- (c) for distributors with ICP pricing, this expectation would apply to both fixed and variable charges
- (d) for distributors with ICP pricing for fixed charges only, this expectation would apply to fixed charges only
- (e) for distributors with GXP pricing for variable charges, traders can expect to be able to reconcile the variable network charges using the EIEP2 files provided by the distributor
- (f) for fixed charges, it is irrelevant whether the distributor uses registry data or the trader's EIEP1 files, or the wash-up amount is \$0 or small, the fixed charges should still be able to be reconciled by the trader for each wash-up cycle under 34(e)
- (g) for variable charges, it is irrelevant whether the distributor uses reconciliation manager data (if GXP pricing) or the trader's EIEP1 files (if ICP pricing), or the wash-up amount is \$0 or small, the variable charges should still be able to be reconciled by the trader for each wash-up cycle under 34(e)
- (h) we don't agree the wording of 34(d)(ii) would allow a trader to provide a revision file for every month outside the reconciliation manager revision cycle and expect the distributor to produce an associated wash-up invoice
- (i) we have been told informally by a trader that if only revision month 3 is provided, and a distributor requests a file for one of the other revision months after the revision cycle is complete, it would not be possible for the trader to retrospectively produce a revision file for a past revision month
- (j) we also understand that the most efficient process for traders is to automatically provide files for all revision months aligned with the reconciliation revision cycle (months 1, 3, 7 and 14)
- (k) it makes sense for traders to automatically provide all the revision files as distributors will then be in possession of all the EIEP1 billing and volume information they may require for invoicing in accordance with clause 34(e).

4.49 We have decided to:

- (i) amend 34(d)(ii) to make it a requirement that EIEP1 files must be provided by traders for all revision months 1, 3, 7 and 14
- (ii) delete 34(e)(iii) as no longer relevant following the amendment to 34(d)(ii)
- (iii) insert a new 34(f) to make it clear that notwithstanding that the parties may agree that the distributor is not required to produce a wash-up invoice for all revision month files provided by traders (other than for revision month 3), the distributor may at its discretion produce a wash-up invoice for any or all of revision months 1, 7 and 14.

4.50 While seeking to clarify comments made by some submitters, a distributor and a trader both made similar comments regarding the timeline for revision month files and wash-up invoices:

- (a) as traders provide submission information for revision months to the reconciliation manager by 4:00pm on the 13th business day, it would be more efficient for distributors' billing processes if traders provided the EIEP1 revision month files shortly after the 13th business day instead of waiting until the 5th business day of the following month
- (b) if traders provide revision month files earlier, it would be more efficient for traders if distributors processed the revision files and provided a wash-up invoice and supporting EIEP1 file earlier than the 10th business day of the following month
- (c) both commented that it will remain inefficient for both distributors and traders unless the timeline is brought forward and common for all participants, both for traders to provide revision files and for distributors to process and provide wash-up invoices and supporting EIEP1 files.

4.51 Authority's response:

- (a) the current business requirement allows traders to provide revision month files any day between the 13th business day (the deadline for traders to provide submission information for revision months to the reconciliation manager) and the 5th business day of the following month
- (b) use of system agreements typically require that the distributor must issue a wash-up invoice and provide a supporting EIEP file by the 10th business day of the following month (same as for initial invoices)
- (c) we agree the current timeline is inefficient for both traders and distributors with ICP pricing, however distributors with GXP pricing don't receive the GR-260 information they require for producing wash-up invoices until the end of the month
- (d) as this issue was not raised during consultation, we are unable to amend the business requirement
- (e) we will investigate this further as part of the Standing Data Formats Group workplan.

4.52 Replacement RM normalised option for HHR ICPs:

- (a) one distributor does not see why the as billed methodology is the only reporting methodology available for billing and volume information for HHR ICPs, and considers replacement RM normalised should also be able to be used

- (b) one trader considers the changes should not prevent use of replacement RM normalised for HHR ICPs, and notes there is no suitable file type (e.g. ICPHHRM).

4.53 Authority's response:

- (a) we do not agree it is appropriate to provide a replacement RM normalised option for HHR ICPs
- (b) for most HHR ICPs the distributor's delivery prices require half-hour volume data which can only be provided using EIEP3
- (c) if replacement RM normalised was specified for HHR ICPs, it would not provide the data required by distributors to invoice network charges for most HHR ICPs
- (d) EIEP1 as billed is only provided as an option for HHR ICPs because it:
 - (i) supports buyer created invoices
 - (ii) allows a distributor the option to invoice network charges to the trader based on what the trader has billed customers¹⁴
 - (iii) allows a distributor to invoice network charges for HHR ICPs without having to process EIEP3 files
- (e) EIEP1 as billed for HHR ICPs may also be used by traders for reconciling network charges
- (f) we have decided not to allow for EIEP1 replacement RM normalised to be used as an option for HHR ICPs.

4.54 One distributor has noted that clause 20 provides that partial replacement 'X' files can only contain replacement data for ICPs included in the initial 'I' file or data for ICPs that were not included in the initial 'I' file, and that full replacement 'R' files are mandated for wash-ups.

4.55 Authority's response:

- (a) this is an error as a partial replacement 'X' file should be an option available for any initial 'I' or full replacement 'R' file already provided
- (b) as discussed above, because 'X' files can be useful but are rarely used, and several submitters have said that development costs may outweigh the benefits, we have decided to amend EIEP1 to make the provision of an 'X' file subject to agreement of the distributor.

4.56 One distributor considers there is a design flaw with distributor to trader files to support wash-up invoices where the wash-up invoice is for the delta.

4.57 Authority's response:

- (a) where used by the distributor for invoicing network charges, a full replacement 'R' file must result in the distributor providing the following:
 - (i) a reversal invoice for the full amount of the previous invoice, which may be for an initial invoice or a wash-up invoice
 - (ii) a new wash-up invoice based on full replacement of all data provided in the previous file

¹⁴ Required for networks with conveyance arrangements. We have only mandated replacement RM for both interposed and conveyance arrangements normalised for MM ICPs.

- (iii) an EIEP1 billing file supporting the new wash-up invoice
 - (b) the net amount to be settled by the trader (or the distributor if the wash-up invoice is less than the previous initial or wash-up invoice) is the difference, adjusted for use of money interest if applicable
 - (c) the requirements for reversal and wash-up invoices should be set out in the use of system agreement and the distributor's billing policies and processes (this is discussed later in this paper)
 - (d) a partial replacement 'X' file is used to replace data for one or a small number of ICPs in a file already provided (or add ICPs not included), but the effect is to amend the file already provided
 - (e) we will amend EIEP1 to make it clear that an 'X' file is only to be used to amend a trader to distributor 'I' or 'R' file already provided and does not apply to distributor to trader files.
- 4.58 One distributor has raised a concern regarding the section "Description of when this protocol applies", in the context it considers EIEP1 is only designed to provide consumption data for NHH (now MM) ICPs and not HHR ICPs which confuses distributors who use estimation routines to normalise incomplete consumption data.
- 4.59 Authority's response:
- (a) EIEP1 is designed to provide billing and consumption data for MM ICPs and HHR ICPs
 - (b) EIEP1 replacement RM normalised is valid for MM ICPs
 - (c) EIEP1 as billed is valid for HHR ICPs
 - (d) we will amend the "Description of when this protocol applies" section to ensure clarity that:
 - (i) EIEP1 'replacement RM normalised' applies only to MM ICPs
 - (ii) EIEP1 'as billed' applies only to HHR ICPs
 - (e) the "use of estimation routines to normalise incomplete consumption data" may arise if a distributor's system is incorrectly interpreting registry event dates and 'Active' ICP status
 - (f) incorrect interpretation will result in the distributor's system billing for an extra day's fixed charges and estimating for an extra day's variable charges where an ICP has been disconnected
 - (g) this should not occur if the trader and distributor systems and EIEP1 files are both correctly aligned for their start date and end date with the registry 'Active' ICP status (i.e. correctly interpreting registry events dates)
 - (h) Clause 6 of Schedule 15.2 of the Code states that, for NHH meter readings:
 - (i) If the NHH meter reading is also a switch event meter reading, switch event meter readings are deemed to apply at 0000 hours on the day of the switch event for the gaining trader and to end at 2400 hours on the day before the switch event date for the losing trader.
 - (ii) In all other cases, up to and including 2400 hours on the day of meter reading

- (i) where an ICP has been electrically connected (or reconnected) this means:
 - (i) the event date in the registry should be the day the ICP was electrically connected (or reconnected)
 - (ii) as it is deemed to have occurred at 0:00:00 on the day of the event date the 'start date' for the purposes of trader EIEP1 files and distributor billing/EIEP1 files must be the date of the day of the event date (i.e. when the registry ICP status of 'Active' commences)
- (j) where an ICP has been electrically disconnected or decommissioned this means:
 - (i) the event date should be the day the ICP was electrically disconnected or decommissioned
 - (ii) as it is deemed to have occurred at 23:59:59 on the day before the event date the 'end date' for the purposes of trader EIEP1 files and distributor billing/EIEP1 files must be the date of the day before the event date (i.e. when the registry ICP status of 'Active' ends before it changes to 'Inactive')
- (k) if a distributor's system incorrectly records the end date for a disconnection or decommissioning as the same day as the event date, it will result in the distributor incorrectly billing an extra day's fixed charges and potentially estimating volume for an extra day's variable charges
- (l) we will amend business requirement 37 (start date, now 38) and business requirement 38 (end date, now 39), and insert a new business requirement 40, clarifying the relationship between registry event dates, 'Active' ICP status, and start date and end date, to ensure correct interpretation of registry event dates.

4.60 One trader submitter has suggested examples should be retained for EIEP1 HHAB to provide guidance on how to report prior period corrections for multiplier errors and reversals.

4.61 Authority's response:

- (a) we do not agree it is necessary or useful to provide examples of how to deal with reversals for ICPHHAB files as the content should reflect exactly how the customer has been billed, including reversals and rebills to deal with prior period billing errors
- (b) the examples in tabular format were originally provided to assist participants with how to report prior period corrections using the 'incremental as billed normalised' reporting methodology which will no longer be an option
- (c) we have decided to delete all examples as we consider they are no longer appropriate with the change to mandate replacement RM normalised.

4.62 **Transition to replacement RM normalised**

4.63 We received the following comments regarding the transition from existing reporting methodologies to replacement RM normalised:

- (a) one distributor commented that:
 - (i) at least one major trader expects any change in billing methodology will require a wash-up payment to the trader

- (ii) if the Authority is mandating a particular billing methodology with a mandated commencement date, it should also mandate that there is not to be any financial penalties between the parties
- (b) another distributor commented that:
 - (i) a common approach to the transition settlement arrangements is required, rather than letting each distributor and trader work out their own rules in an ad-hoc manner
 - (ii) a grandfathering provision for wash-ups will be needed for periods prior to the transition date
- (c) one distributor noted there may be use of system agreement issues to be negotiated

4.64 Authority's response:

- (a) we must emphasise that the change is to mandate a single reporting methodology for MM ICPs, not the billing methodology which reflects the distributor's policies and processes for billing of network charges
- (b) we have listened to submitters and do not intend to mandate a transition date, rather we will mandate that the transition must be completed by a specified date
- (c) we do not agree that the Authority should mandate a common approach to transition settlements, it is neither necessary nor appropriate
- (d) we also do not agree we should mandate there is not to be any transition settlement payment
- (e) whether a transition settlement payment is required will depend on what is agreed between the distributor and trader(s), and the current reporting methodology
- (f) if incremental as billed normalised is the current reporting methodology:
 - (i) the distributor and trader may agree to transition without a transition settlement payment¹⁵
 - (ii) failing that, the trader will have to produce a transition settlement file which may result in a payment from trader to distributor, or distributor to trader
 - (iii) for the variable charges, the transition settlement file will need to reflect the difference between:
 1. forward estimate volumes in the incremental as billed normalised files before the transition date (i.e. between the last actual meter read and transition date); and
 2. historic estimate or permanent estimate volumes underpinning the reconciliation manager submission information for the same periods and for the same revision cycle the parties have agreed to use for the final wash-up after the transition date¹⁶; or otherwise

¹⁵ For example, if the trader can demonstrate to the satisfaction of the distributor that for the months either side of the proposed transition date the difference in monthly volumes between those reported in incremental as billed normalised files and reconciliation manager submission information for the same ICPs is immaterial (or typically immaterial).

¹⁶ Revision month 3 if the parties have agreed to the minimum wash-up cycle, otherwise revision month 7 or 14.

3. forward estimate¹⁷ volumes underpinning the reconciliation manager submission information for the same periods and for the same revision cycle the parties have agreed to use for the final wash-up after the transition date
- (g) if as billed is the current reporting methodology:
- (i) unless customer billing is aligned with calendar months using actual month end meter reads, the transition settlement will result in a payment from trader to distributor
 - (ii) the amount should not be a great surprise because both parties should already be providing for an unbilled accrual in their financial reporting
 - (iii) the actual amount will require a transition settlement file to be produced by the trader
 - (iv) the transition settlement file will need to reflect:
 1. unbilled days between the end date of each fixed record in the last as billed file and the transition date
 2. unbilled volumes between the end date of each variable record in the last as billed file and the transition date
 3. the difference between:
 - forward estimate volumes from the last actual billed meter read to the transition date; and
 - historic estimate or permanent volumes underpinning the reconciliation manager submission information for the same periods and for the same revision cycle the parties have agreed to use for the final wash-up after the transition date¹⁸, or otherwise
 - forward estimate¹⁹ volumes underpinning the reconciliation manager submission information for the same periods and for the same revision cycle the parties have agreed to use for the final wash-up after the transition date
- (h) distributors will need to review their use of system agreements, and billing policies and processes, in the context of the mandated change to replacement RM normalised for MM ICPs for networks with interposed and conveyance arrangements
- (i) as for any proposed amendment to a use of system agreement, or to the distributor's billing policies or processes which should be set out in a schedule to the use of system agreement, the distributor will need to:
- (i) notify traders of the details of, and rationale for, the proposed change

¹⁷ Prior to the transition to replacement RM normalised files, the formula used for forward estimate volumes underpinning reconciliation submission information may be different to that used for forward estimate volumes in EIEP1 files.

¹⁸ Revision month 3 if the parties have agreed to the minimum wash-up cycle, or otherwise revision month 7 or 14

¹⁹ Prior to the transition to replacement RM normalised files, the formula used for forward estimate volumes underpinning reconciliation submission information may be different to that used for forward estimate volumes in EIEP1 files

- (ii) allow traders a reasonable period (typically 20 business days) to provide written submissions
- (iii) consider in good faith any submissions from traders
- (iv) finalise the changes and provide traders with a variation agreement setting out the revised terms relevant to the updated billing policies and processes
- (j) it is important that the updated billing policies and processes are finalised as soon as possible so that both parties can make changes to their systems and processes, and progress transition arrangements

4.65 Transition steps

(a) We have provided the following example for guidance only:

1. Distributor to draft, consult and finalise amendments to its use of system agreement (including its billing policies and processes, and which revision file(s) must be processed by the distributor) to reflect the decision to mandate EIEP1 replacement RM normalised reporting methodology and changes to the EIEP1 and 2 specifications
2. Parties to develop system and process capability:
 - a. Traders, to provide EIEP 1 and 2 files to all distributors in accordance with the amended specifications and the distributor's finalised billing policies and processes
 - b. Distributors, to receive and process EIEP 1 and 2 files in accordance with the amended specifications and its finalised billing policies and processes.
3. Distributors to agree a transition date with each trader.
4. Transition files for report months either side of the transition date based on following scenario: (i) agreed transition date 1 June 2020; (ii) current reporting methodology is incremental as billed normalised; (iii) parties have agreed that revision month 7 must be processed in addition to revision month 3 (the minimum):
 - final incremental as billed normalised EIEP1 file for May report month to be provided by traders on 5th business day of June 2020, to be processed by the distributor as normal
 - initial month 0 replacement RM normalised EIEP1 file for June report month to be provided by traders by 5th business day of July 2020, to be processed by the distributor as an 'I' file
 - revision month 3 replacement RM normalised EIEP1 file for June report month to be provided by traders by 5th business day of October 2020, to be processed by the distributor as a 'R' file
 - revision month 7 replacement RM normalised EIEP1 file for June report month to be provided by traders by 5th business day of February 2021, to be processed by the distributor as a 'R' file
 - unless the distributor and trader have agreed to waive a transition settlement, trader to provide a transition settlement file for May 2020 shortly after the 5th business day of February 2021 (say by end of February), to be used by the distributor to produce a settlement invoice for payment on the 20th of March 2021.

Summary of Authority's decisions on EIEP1

As proposed in draft EIEP1 v11 Option 1

4.66 We confirm the amendments proposed in the draft EIEP1 v11.1 Option 1 where there are no changes (apart from replacing NHH with MM), as follows:

- (a) **Description of when this protocol applies:** replace the four reporting methodology options and two paragraphs outlining the process to determine which reporting methodology is to be used, with the following paragraphs that reflect the mandated single standardised EIEP1 reporting methodology for MM ICPs, and the only EIEP1 option available for HHR ICPs, as follows:

The billing and volume information for MM ICPs contained in an EIEP1 file provided by the trader to the distributor must use the 'replacement RM normalised' reporting methodology for both interposed and conveyance arrangements.

The billing and volume information for HHR ICPs contained in an EIEP1 file provided by the trader to the distributor must use the 'as billed' reporting methodology.

- (b) **Business requirement 4 (timeline for revision files):** amended to clarify that traders may provide revision month files any day between the 13th business day (the day traders must provide revision submission information to the reconciliation manager) and 5th business day of the following month
- (c) **Business requirement 50 (volume information containing trading period specific data):** relocated (now 27) as section "General requirements for the normalised methodologies" is no longer relevant
- (d) **'Incremental as billed normalised' methodology:** deleted
- (e) **'Replacement RM normalised' methodology:**
- (i) additional qualification inserted in business requirement 34(c) (now 35(c)) to reflect that the volume reported in the initial file may not align in aggregate with the volume submitted to the reconciliation manager for month 0 due to "*minor exceptions that may occur with month 0 processing*"
 - (ii) business requirement 35 (now 36) amended to clarify that each revision file with file status 'R' must fully replace the previous file
 - (iii) business requirement 36 (now 37) inserted to clarify that where an ICP has belonged to the trader for part of a month, the date range must only be for that part of the month when the ICP was 'Active' in the registry and responsibility of the trader
- (f) **'Incremental RM normalised' methodology:** deleted
- (g) **General requirement for the normalised methodologies:** deleted apart from business requirement 48 (start date for replacement RM normalised) and business requirement 50 (volume information containing trading period specific data) which have been relocated.

Additional amendments

4.67 We have decided to make the following amendments to EIEP1 as a result of consultation, and to ensure clarity and consistency.

4.68 **Application:** insert paragraphs (c) and (d) to make it clear that:

- (a) if the distributor requires billing and volume information for MM ICPs, traders must provide EIEP1 'replacement RM normalised' files for networks with interposed and conveyance arrangements
 - (b) if the distributor requires billing and volume information for HHR ICPs, traders must provide EIEP1 'as billed' files.
- 4.69 **Dependencies:** insert "*the distributor's billing policies and processes and*" to clarify that the use of system agreement may set out billing policies and processes in addition to the requirements relating to information that must be provided in the EIEP1 file
- 4.70 **Description of when this protocol applies:**
- (a) insert the following definitions for MM ICP and HHR ICP:
For the purposes of EIEPs 1, 2 and 3:
 - (i) a MM ICP (mass market ICP) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half-hour metering information (or has specified time-blocked periods) for the application of delivery prices
 - (ii) a HHR ICP (half hour ICP) means an ICP that is not a MM ICP.
 - (b) insert a paragraph that specifies that the distributor and trader may also agree that the data provided in EIEP1 files may be used by consumer trusts/distributors for the calculation of income distribution amounts
- 4.71 **Business requirement 1 (file transport mechanism):** add a sentence that may be useful to new entrant traders:
The electronic file transport mechanism commonly used for EIEP files is the registry EIEP transfer hub (via the registry EIEP SFTP server).
- 4.72 **Business requirement 12 (recipients must be capable of receiving I, R and X files):** specify that a trader may only provide a X (partial replacement) file if agreed by the distributor.
- 4.73 **Business requirement 13 (separate EIEP1 files for MM ICPs and HHR ICPs):** make it clear that for trader to distributor files, unless the distributor has requested otherwise, and the trader agrees (and that agreement is recorded in writing):
- (a) billing and volume information relating to MM ICPs must be provided in a separate EIEP1 file to that of HHR ICPs, with a file type of ICPMMRM.
 - (b) billing and volume data for HHR ICPs, if required by the distributor for billing of network charges, must be provided by traders in a separate EIEP1 file to that for MM ICPs, with a file type of ICPHHAB.
- 4.74 **Business requirement 20 (now 21) (process around 'R' and 'X' files):**
- (a) insert qualification for a 'X' partial replacement file as for 12
 - (b) delete the sentence that states a 'X' partial replacement file can only contain data for ICPs included or not included in the 'I' file
- 4.75 **Business requirements 23 and 24 (reporting methodology and processes for networks subject to interposed and conveyance arrangements, and mixing methodologies):**

- (a) replace business requirements 23 and 24 with a new 24:
If the distributor requires billing and volume information for MM ICPs, traders must provide EIEP1 'replacement RM normalised' files (file type ICPMMRM) for networks with interposed and conveyance arrangements.
 - (b) insert a new business requirement 25 for HHR ICPs:
If the distributor requires billing and volume information for HHR ICPs, traders must provide EIEP1 'as billed' files (file type ICPHHAB).
- 4.76 **'As billed methodology'**: (for HHR ICPs) added to heading for clarity
- 4.77 **'Replacement RM normalised' methodology**:
- (a) (for MM ICPs) added to heading for clarity
 - (b) business requirement 35(d)(ii) amended to make it a requirement that traders must provide revision files for all revision months 1, 3, 7 and 14
 - (c) business requirement 35(e)(iii) deleted as no longer relevant following the change to 34(d)(ii)
 - (d) new business requirement 35(e)(ii) inserted partly as a consequence of the change to 34(d)(ii), and also to make it clear that notwithstanding that the parties may agree that the distributor is not required to produce a wash-up invoice for all revision month files provided by traders (other than for revision month 3), the distributor may at its discretion produce a wash-up invoice for any or all of revision months 1, 7 and/or 14
 - (e) new business requirement 35(g) to clarify the treatment of prior period correction events must align volumes reported with those submitted to the reconciliation manager for the relevant reconciliation revision cycle
 - (f) business requirements 38 (start date) and 39 (end date) amended from 37 and 38 in draft EIEP v11.1, and business requirement 40 (relationship between EIEP1 start date and end date, and registry event date and 'Active' ICP status) added, to ensure correct interpretation of registry event dates and 'Active' periods when recording start date and end date in systems and EIEP1 files.
- 4.78 **Header record**: file type amended to reflect deletion of ICPMMAB, ICPMMNM and ICPMMSP, and replacement of NHH with MM.
- 4.79 **Protocol specifications**:
- (a) updated example of file name to reflect valid file type and 2019 dates
 - (b) updated clause 8 (file types) to add clarity by separating trader to distributor file types and distributor to trader file types, and to delete invalid file types going forward.
- 4.80 **Examples of files for EIEP1**: deleted as no longer relevant
- 4.81 The final decisions on all amendments are included in the marked up and clean versions of EIEP1 v11.1.

5 Authority decisions on EIEP2

EIEP2 Aggregated billing and volume information

Consultation proposal

- 5.1 The Authority proposed amending EIEP2 to reflect the appropriate option for NHH (now MM) ICPs while retaining as billed for HHR ICPs.

Submissions and Authority's consideration

- 5.2 There were no submissions suggesting amendments to EIEP2.

Summary of Authority's decisions on EIEP2

- 5.3 We have decided to make the following amendments to EIEP2 as a result of amendments to EIEP1 and to ensure clarity and consistency.
- 5.4 **Dependencies:** insert "*the distributor's billing policies and processes and*" to clarify that the use of system agreement may set out billing policies and processes additional to the requirements relating to information that must be provided in the EIEP2 file.
- 5.5 **Description of when this protocol applies:** we have redrafted this section to more correctly reflect the purposes for which EIEP2 is commonly used, and to align with EIEP1 where appropriate, including:
- (a) definitions for MM ICP and HHR ICP:
 - For the purposes of EIEPs 1, 2 and 3:*
 - (i) *a MM ICP (mass market ICP) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half-hour metering information (or has specified time-blocked periods) for the application of delivery prices*
 - (ii) *a HHR ICP (half hour ICP) means an ICP that is not a MM ICP.*
 - (b) paragraphs that specify:
 - (i) protocol is particularly useful for distributors that calculate network charges based on aggregated categories of ICPs
 - (ii) the requirement for traders to provide EIEP2 files only "if required by the distributor", reflecting that many distributors do not require or want to receive EIEP2 files
 - (iii) when distributors must provide an EIEP2 file to traders to support their invoice for network charges.
- 5.6 **Business requirement 1 (file transport mechanism):** add a sentence that may be useful to new entrant traders:
The electronic file transport mechanism commonly used for EIEP files is the registry EIEP transfer hub (via the registry EIEP SFTP server).
- 5.7 **Business requirement 4 (timeline for revision files):** insert a new business requirement consistent with EIEP1 as omitted from v11 in error.
- 5.8 **Business requirement 19 (process around 'I', 'R' and 'X' files):** delete 'X' partial replacement file option as not relevant to EIEP2.

- 5.9 **Business requirement 20 (reporting of distributor's price component code):** insert new paragraph consistent with EIEP1 as omitted from v11 in error.
- 5.10 **Header record:**
- (a) file types added consistent with header record for EIEP1
 - (b) file status 'X' option deleted as not appropriate for EIEP2.
- 5.11 **Protocol specifications:**
- (a) updated example of file name to reflect valid file type and 2019 dates
 - (b) updated business requirement 8 (file types) to delete invalid file types and provide consistency with EIEP1.
- 5.12 The final decisions on all amendments are included in the marked up and clean versions of EIEP2 v11.1.

6 Authority decisions on EIEP3

EIEP3 Half hour metering information

Consultation proposal

- 6.1 The Authority did not propose any amendments to EIEP3. The proposed amendments below arose as a result of amendments to EIEP1.

Summary of Authority's decisions on EIEP3

- 6.2 We have decided to make the following amendments to EIEP3 as a result of amendments to EIEP 1 and to ensure clarity and consistency.
- 6.3 **Dependencies:** insert "*the distributor's billing policies and processes and*" to clarify that the use of system agreement may set out billing policies and processes additional to the requirements relating to information that must be provided in the EIEP2 file.
- 6.4 **Description of when this protocol applies:** we have inserted definitions for MM ICP and HHR ICP:
- For the purposes of EIEPs 1, 2 and 3:*
- (i) *a MM ICP (mass market ICP) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half-hour metering information (or has specified time-blocked periods) for the application of delivery prices*
 - (ii) *a HHR ICP (half hour ICP) means an ICP that is not a MM ICP.*
- 6.5 **Business requirement 1 (file transport mechanism):** we have added a sentence that may be useful to new entrant traders:
- The electronic file transport mechanism commonly used for EIEP files is the EIEP transfer hub (via the EIEP SFTP server).*
- 6.6 The final decisions on all amendments are included in the marked up and clean versions of EIEP3 v11.1.

7 Authority decisions on timeline for implementation

Implementation timeline for v11.1 of EIEPs Overview document and EIEPs 1, 2 and 3

Consultation proposal

- 7.1 The Authority proposed an implementation date of 1 April 2020, subject to 12 months lead time.

Submissions and Authority's consideration

- 7.2 We received 19 submissions.
- 7.3 Thirteen submitters agreed that a 1 April 2020 implementation date would be achievable, subject to 12 months minimum lead time.
- 7.4 Six submitters had other suggestions, including:
- (a) 1 April 2020 should be the date by which the transition must be completed (again subject to 12 months lead time), allowing flexibility for distributors and traders to work together to make the transition at a time that suits them best rather than all parties having to make the transition at the same time
 - (i) these transitions from existing reporting methodologies to replacement RM normalised have been done before and can be done at any time of the year
 - (ii) it is better the transition does not align with the date of delivery price changes to avoid over complication
 - (b) one large trader is progressing a major system change (which supports replacement RM normalised) and has suggested an implementation completion date of 1 April 2021 as it will fit with its expected migration to the new system by the end of 2020, it also said an earlier date would require an exemption
 - (c) minimum of 12 months from the date the decision paper is issued
 - (d) implementation date should be no later than 1 April 2020
 - (e) one transition date would be better than multiple dates
 - (f) minimum of 15 months from the date the decision paper is issued, primarily to accommodate embedded network price changes which occur 1-2 months after local network price changes
 - (g) traders should not underestimate the work required to support the transition across all local distributors and embedded networks.
- 7.5 Authority's response:
- (a) the date proposed in the consultation paper of 1 April 2020, subject to 12 months lead time, is no longer achievable
 - (b) we agree the transition can be done at any time of the year, and that there is no imperative to align with delivery price change dates
 - (c) alignment with, or transitions shortly after, delivery price changes will likely add unnecessary complexity at a time when participants are already very busy dealing with delivery price changes across most networks

- (d) we encourage traders and distributors to work together in good faith to complete the transition as soon as both parties have the capability and capacity to do so, but we need to set a date that transitions must be completed by
- (e) the worst case appears to be one major trader which is progressing a major system change and has submitted it would need an exemption if the implementation completion date was earlier than 1 April 2021
- (f) we have decided to set an implementation completion date of no later than 1 April 2021, subject to a minimum of 12 months lead time from the date the decision paper is issued.

Summary of Authority's decisions on implementation timeline

- 7.6 We have decided to set an implementation completion date of no later than 1 April 2021, subject to a minimum of 12 months lead time from the date the decision paper is issued.
- 7.7 We encourage traders and distributors to work together in good faith to:
 - (a) update the distributor's use of system agreement, and its billing policies and processes, to support the changes to EIEPs 1 and 2; and
 - (b) complete the transition as soon as both parties have the capability and capacity to do so.

Appendix A Updated list of EIEPs

A.1 The list below reflects final decisions following this second consultation paper.

| EIEP | Description | Send > Receive | Frequency | Regulated (Yes or No) |
|--------|---|--|------------------------|-----------------------|
| EIEP1 | Detailed ICP billing and volume information Trader to Distributor: <ul style="list-style-type: none"> As billed (HHR ICPs) Replacement RM normalised (MM ICPs²⁰) Distributor to Trader: <ul style="list-style-type: none"> Separate billing files for MM ICPs and HHR ICPs; or Single billing file for all ICPs | Trader > Distributor Distributor > Trader | Monthly | Yes |
| EIEP2 | Aggregated billing and volume information <ul style="list-style-type: none"> Summary of EIEP1 for ICP prices Variable volumes and charges for GXP prices (Distributor to Trader) | Trader > Distributor Distributor > Trader | Monthly | Yes |
| EIEP3 | Half hour metering information (HHR ICPs) | Trader > Distributor | Monthly | Yes |
| EIEP4 | Customer information <ul style="list-style-type: none"> Snapshot Incremental | Trader > Distributor | Monthly (or as agreed) | No |
| EIEP5A | Planned service interruptions | Distributor > Trader | As required | Yes ²¹ |
| EIEP5B | Unplanned service interruptions | Distributor > Trader | As required | No |
| EIEP6 | Faults and service requests – refer EIEP6A and EIEP6B | | | |
| | EIEP6A - Network related customer faults <ul style="list-style-type: none"> Initiation Status update and closure | Trader > Distributor Distributor > Trader | As required | No |
| | EIEP6B - Non-network related customer faults and service requests <ul style="list-style-type: none"> Initiation Status update and closure | Trader > Field Services Provider Field Services Provider > Trader | As required | No |
| EIEP7 | General installation status change | Trader > Distributor | As required | No |
| EIEP8 | Price category changes | Trader > Distributor | As required | No |

²⁰ For the purposes of EIEPs 1, 2 and 3: (a) a MM ICP (mass market ICP) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half-hour metering information (or has specified time-blocked periods) for the application of delivery prices; (b) a HHR ICP (half hour ICP) means an ICP that is not a MM ICP.

²¹ Although we made EIEP5A a regulated EIEP, we have completed a second consultation and have yet to finalise our decision on the delivery mechanism for planned service interruption information.

| EIEP | Description | Send > Receive | Frequency | Regulated (Yes or No) |
|---------|---|---|-------------|-----------------------|
| | <ul style="list-style-type: none"> Notification Rejection | Distributor > Trader | | |
| EIEP9 | ICP physical address change notification | Trader > Distributor | As required | No |
| EIEP11 | New connections information <ul style="list-style-type: none"> Request for new ICP Provision of a new ICP Change of ICP information Provision of metering information by either party | Trader > Distributor Distributor > Trader | As required | No |
| EIEP12 | Delivery price change notification | Distributor > Trader Distributor > the Authority | As required | Yes |
| EIEP13A | Electricity conveyed information for consumers (half hour and non-half hour detailed) | Retailer to Consumer (or their authorised agent) | As required | Yes |
| EIEP13B | Summary consumption information | Retailer to Consumer (or their authorised agent) | As required | Yes |
| EIEP13C | Request file for EIEP13A and EIEP13B | Consumer's authorised agent > Retailer | As required | Yes |
| EIEP14 | Retailer tariff rate ²² notification | Retailer > Third Party Service Provider | As required | No |

²² Description not amended to reflect preferred terminology as not included in 2017 EIEP operational review and requires Code change.

Appendix B EIEPs v11.1: with changes shown

Electricity Information Exchange Protocols (EIEPs)

Overview

28 January 2020



Version control

| Version | Date amended | EIEP ref | Comments |
|----------------------|---------------------------------|-------------------------------|--|
| 10 | 6 December 2013 | EIEP overview | Amendments from February 2013 consultation. Draft for publication prior to final EIEPs being published under Part 12A of the Code. |
| 10.1 | 30 June 2017 | EIEP overview | Document updated to reflect regulatory and style changes. Amended to align with 2017 operational review of EIEPs |
| 11 | 2 October 2018 | EIEP overview | Rename EIEP9 'ICP physical address change notification'. Rename EIEP8 'Price category changes' |
| 11.1 | 28 January 2020 | EIEP overview | Amended to reflect decision to mandate a single EIEP1 replacement RM normalised reporting methodology for MM ICPs (mass market ICPs) for networks with interposed and conveyance arrangements. |

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1 Electricity Information Exchange Protocols functional specifications

Introduction

- 1.1 Electricity Information Exchange Protocols (EIEPs) provide standardised formats that support the reliable exchange of information between participants, and participants and other parties.¹
- 1.2 EIEPs are either regulated or non-regulated. Regulated formats include EIEPs 1, 2, 3, 12, and 13. Non-regulated EIEPs may be adopted in contracts between traders and distributors (normally use of system agreements), and between retailers and field services providers. These EIEPs may vary in the information that they contain depending on arrangements between the parties or as their systems may dictate.
- 1.3 Through the use of EIEPs, parties are able to efficiently exchange regular and/or large volumes of information.

Standing Data Formats Group

- 1.4 The Standing Data Formats Group (SDFG) was established in May 2006 to consider new EIEPs. The EIEPs were developed to communicate information ranging from consumption data to enable invoicing of network charges, information to support invoices and reconciliation of network charges, customer information, planned and unplanned service interruption information, faults and service requests, price category changes and new connections. EIEPs have evolved to provide a low cost, consistent and reliable means of communication.
- 1.5 The revised EIEPs incorporate industry changes (including Code amendments), and consistent terminology with that of the registry functional specification, reconciliation functional specification and the Glossary of Standard Terms (which will be amended from time to time if terminology preferences change).

This document

- 1.6 This document is the overview of the functional specifications for all EIEPs, both regulated and non-regulated. It should be read in conjunction with the separately published EIEPs, the Code requirements (where appropriate), participant use of system agreements (UoSAs) and the registry and reconciliation functional specifications.
- 1.7 To achieve and maintain the maximum level of standardisation across participants' IT systems, the Authority recommends that EIEP implementations adhere fully to the specifications (including formats and business requirements) contained in this document.

2 Concept and structure

- 2.1 The EIEPs are designed to be used by participants for frequently exchanged and/or high volume information sets within specified time frames.

¹ EIEP6B provides for the exchange of fault and service request information between retailers and field services providers. EIEP 13 provides for the exchange of consumer consumption information between retailers and consumers or consumers' authorised agents.

- 2.2 Each EIEP is self-contained, in that it contains all relevant information. EIEP-specific reference codes are set out following the file format for each EIEP.
- 2.3 The EIEP specifications have been drafted in a style consistent with other industry functional specifications. This style provides a table with sections for:
- Header information – title, Code references and dependencies
 - Description – purpose of the EIEP
 - Business requirements – how the data file is to be interpreted and used, and the structure of the data file
 - Data inputs – information required to produce a data file
 - File format; Header – identifying file data
 - File format; Detail – the information to be exchanged
 - File specifications – supporting field information, naming standards and rules for field population including example files
 - Data outputs – for other intended recipients e.g. registry or reconciliation.

The EIEP formats

2.4 The table below contains a list of all EIEPs.

| Format name | Description | Send → Receive | Frequency used | Type |
|-------------|---|---|----------------|-----------|
| EIEP1 | <p>Detailed ICP billing and volume information</p> <p>Trader to distributor:</p> <ul style="list-style-type: none"> As billed (for HHR ICPs) Incremental as billed normalised Replacement RM normalised (for MM ICPs²) Incremental RM normalised <p>Distributor to trader:</p> <ul style="list-style-type: none"> Separate billing files for MM ICPs and HHR ICPs; or Single billing file for all ICPs | <p>Trader → Distributor</p> <p>Distributor → Trader</p> | Monthly | Regulated |
| EIEP2 | <p>Aggregated billing and volume information</p> <ul style="list-style-type: none"> Summary of EIEP1 for ICP prices Variable volumes and charges for GXP prices (Distributor to Trader only) | <p>Trader → Distributor</p> <p>Distributor → Trader</p> | Monthly | Regulated |
| EIEP3 | <p>Half hour metering information (for HHR ICPs)</p> | <p>Trader → Distributor</p> | Monthly | Regulated |

² For the purposes of EIEPs 1, 2 and 3: (a) a MM ICP (mass market ICP) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half-hour metering information (or has specified time-blocked periods) for the application of delivery prices; (b) a HHR ICP (half hour ICP) means an ICP that is not a MM ICP.

| Format name | Description | Send → Receive | Frequency used | Type |
|-------------|--|--|--------------------------|---------------|
| EIEP4 | Customer information <ul style="list-style-type: none"> • Snapshot • Incremental | Trader → Distributor | Monthly (or as required) | Non-regulated |
| EIEP5A | Planned service interruptions | Distributor → Trader | As required | Regulated |
| EIEP5B | Unplanned service interruptions | Distributor → Trader | As required | Non-regulated |
| EIEP6 | Faults and service requests – refer EIEP6A and EIEP6B | | | |
| EIEP6A | Network related customer faults <ul style="list-style-type: none"> • Initiation • Status update and closure | Trader → Distributor Distributor → Trader | As required | Non-regulated |
| EIEP6B | Non-network related customer faults and service requests <ul style="list-style-type: none"> • Initiation • Status update and closure | Retailer → Field Services Provider Field Services Provider → Retailer | As required | Non-regulated |
| EIEP7 | General installation status change | Trader → Distributor | As required | Non-regulated |
| EIEP8 | Price category changes <ul style="list-style-type: none"> • Notification • Rejection | Trader → Distributor Distributor → Trader | As required | Non-regulated |
| EIEP9 | ICP physical address change notification | Trader → Distributor | As required | Non-regulated |
| EIEP10 | Discontinued | | | |
| EIEP11 | New Connections: <ul style="list-style-type: none"> • Request for a new ICP • Provision of a new ICP • Change of ICP information • Provision of metering information by either party | Trader → Distributor Distributor → Trader | Daily (or as required) | Non-regulated |
| EIEP12 | Delivery price change notification | Distributor → Trader Distributor → Authority | As required | Regulated |

| Format name | Description | Send → Receive | Frequency used | Type |
|-------------|--|---|----------------|---------------|
| EIEP13A | Detailed electricity consumption information for consumers (half hour and non-half hour) | Retailer → Consumer (or their authorised agent) | As required | Regulated |
| EIEP13B | Summary consumption information | Retailer → Consumer (or their authorised agent) | As required | Regulated |
| EIEP13C | Electronic request format for EIEP 13A or EIEP 13B | Consumer's authorised agent → Retailer | As required | Regulated |
| EIEP14 | Retailer tariff rate notification ³ | Retailer → Third Party Service Provider | As required | Non-regulated |

³ EIEP14 is a voluntary protocol which may be used by a retailer when responding to a request from a third-party service provider that requests the retailer's generally available tariff plans. As it is not included in this operational review and the terminology used reflects the regulated requirements set out in Clause 11.1(g) and 11.32G of the Code, the use of terms "tariff rate" and "tariff plans" have not been changed to reflect the terminology preferences for retail pricing (e.g. "pricing plan(s)") as it would require Code changes.

Abbreviations and codes used in the format

- 2.5 Part 1 of the Code provides most definitions associated with the terms used in the EIEPs.
- 2.6 A Glossary of Standard Terms provides definitions for all other terminology used within the EIEPs. This document is published on the Authority's website at <http://www.ea.govt.nz/dmsdocument/14292>.
- 2.7 As previously noted, the EIEPs should be used in conjunction with the registry and reconciliation functional specification documents. These documents contain a list of attributes and codes that are to be used with formats included in the EIEPs.
- 2.8 In particular, references to tables such as Meter Location Codes, Register Content Codes and Disconnection Codes are those referred to in the registry functional specification.⁴

3 Information exchange mechanisms

Electronic data file transfer

- 3.1 Most non-manual interfaces use electronic file transfer either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. The Authority encourages parties to use the EIEP transfer hub when transferring EIEP file formats.⁵
- 3.2 A data file created on the source system is transferred to a predetermined directory on the destination system using FTP or SFTP. Alternatively, the transfer may be carried out via a central hub webpage using Secure Hyper-Text Transfer Protocol (HTTPS).
- 3.3 The transfer mechanism used and the destination address is configurable at the file type level as agreed between the parties. Where FTP is used, additional security must be used to protect the confidentiality of the information transferred.
- 3.4 Where information is transferred using email, the information must be delivered in a secure manner and password protected.

4 Management of EIEPs

Review and change process

- 4.1 Any participant may propose a change to the business requirements, formats, reports, or any other part of an EIEP file (e.g., add or change fields) by submitting a change proposal form (or equivalent form) to the Authority. A form is available on the Authority's [EIEP webpage](#)⁶. Where an EIEP is regulated by the Code, any changes will need to go through the amendment process set out in the Code.

Process for regulated EIEPs

- 4.2 The Code requires that, before the Authority regulates an EIEP or amends a regulated EIEP, the Authority must consult with the participants that the Authority considers will be affected by the EIEP. However, the Authority need not consult if the Authority considers that the amendment is:

⁴ The registry functional specification can be downloaded from www.electricityregistry.co.nz.

⁵ The EIEP transfer hub is a SFTP provided by the Authority for participants and agents to use when transferring EIEP file format. More information on the EIEP transfer hub is available from the market operations team at marketoperations@ea.govt.nz.

⁶ <http://www.ea.govt.nz/operations/retail/eiep/>.

- (a) technical and non-controversial; or
 - (b) there has been adequate prior consultation so that the Authority has considered all relevant views.
- 4.3 If the Authority considers that consultation is necessary, the Authority will follow its [consultation charter](#). Any changes being consulted on will be flagged as under review on the Authority's website and all affected parties notified through the Authority's Market Brief.
- 4.4 The Authority may also consult the SDFG before it makes its consideration under paragraph 4.2.
- 4.5 Once the decision has been made, the Authority will inform the proposer and notify all affected participants. If the EIEP will be updated, the Authority will publish the changes on its website.

Process for non-regulated EIEPs

- 4.6 The SDFG will review any proposals to change an unregulated EIEP using a review process. If the change is considered minor, the SDFG may recommend to the Authority that the change is immediately approved, declined, or amended and affected participants notified of the change.
- 4.7 For more substantive changes to unregulated EIEPs, if the SDFG's recommendation is to approve or amend the proposal, the proposal will be circulated to interested parties for comment for a period of two weeks or more. The Authority will consider any comments, then will modify the EIEP documentation accordingly. Minor changes will receive an incremental change to the version number on the document (i.e. v1~~10.0~~ to v1~~10~~.1).
- 4.8 The SDFG may recommend to the Authority that a proposal to change an unregulated EIEP is sent out for longer consultation with the industry (e.g. for a major change). If the Authority agrees and decides that industry consultation is necessary, the relevant EIEP will be flagged as under review on the Authority's website and all affected parties notified through the Authority's Market Brief. Participants may then submit on the proposed changes. Major changes will incur a full point change to the version number of the document (i.e. v1~~10.0~~ to v1~~21.0~~).
- 4.9 If approved (or amended), the Authority will inform the proposer and notify all affected participants. The EIEP will be updated and the Authority will publish the changes on its website.
- 4.10 If the Authority declines or defers the proposal, it will inform the proposer and give reasons for the decision.

Effective date of change

- 4.11 The Authority will advise the effective date of the change when it publishes the change. There may be a transition period if the change is significant enough to warrant this (advised at time of publication).

Transparency

- 4.12 The review process for proposed EIEP changes will be transparent to affected participants. Any participant may request copies of any written material of the SDFG relating to the proposal.

Electricity Information Exchange Protocols (EIEP)

EIEP 1: Detailed ICP billing and volume information Regulated

Effective from 1 ~~October 2019~~ [April 2021](#)



Version control

| Version | Date amended | EIEP reference | Comments |
|----------------------|---|-----------------------|--|
| 10 | 11 November 2013 1 May 2014 30 May 2014 | EIEP1 | Amendments from March 2013 consultation Template reformatted Approved and publicised by the Authority |
| 10.1 draft | 30 June 2017 | EIEP1 | Amendments include: Terminology alignment with ENA pricing guidelines and preferences agreed with ENA Improvements to add clarity and consistency to content Corrections to content where appropriate Guidance on approach to determination of reporting methodology for trader files Changes to names of normalised reporting methodologies to better reflect data sources Guidance on application of mixed reporting methodologies Minimum requirements for replacement RM normalised revision files |
| 11 | 2 October 2018 | EIEP1 | Amendments include: Improvements to add further clarity and consistency following submissions received in response to the 4 August 2017 consultation paper and the Authority's responses and decisions set out in the decision paper. Guidance on split or single files (business requirement 12) Application of mixed methodologies (business requirements 22 and 23) Minimum requirements for replacement RM normalised revisions New file types for distributor to trader files Validation rules for attributes used to calculate network charge Validation rule for register content code where HHR data framed for time-blocked prices Clarity around requirements for NZ Daylight Time adjustment techniques |
| 11.1 | 28 January 2020 | EIEP1 | Amendments include: General improvements to add clarity and consistency Changes to ICP classification, replacement of NHH ICP with MM ICP (mass market ICP), and definitions for MM ICP and HHR ICP Mandating EIEP1 'replacement RM normalised' for MM ICPs for both interposed and conveyance arrangements, deleted other options for |

| Version | Date amended | EIEP reference | Comments |
|---------|--------------|----------------|--|
| | | | <p>MM ICPs. Providing EIEP1 'as billed' as an option available to distributors for HHR ICPs Traders may only provide 'X' partial replacement files if agreed by distributor Some changes to requirements for providing and processing of revision month files. Clarity around relationship between registry events dates, 'Active' ICP status, start date and end date</p> |

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| 1 | EIEP1: Detailed ICP billing and volume information | 1 |
| 2 | Table of codes used in EIEP1 | 15 |

1 EIEP1: Detailed ICP billing and volume information

| | |
|------------------------|---|
| Title: | EIEP1 – Detailed ICP billing and volume information |
| Version: | 11.1 0 |
| Application: | <p>This protocol allows:</p> <ul style="list-style-type: none"> a) traders to provide billing and volume information to distributors at an ICP level to enable distributors to invoice fixed and variable network charges, meet the distributor's network planning, pricing design, and regulatory information disclosure reporting requirements, and provide information to the extended reserve manager. b) distributors to provide billing and volume information to traders to support their invoices for network charges, and to enable traders to reconcile the network charges at detailed level. <p>For trader to distributor files this protocol requires that:</p> <ul style="list-style-type: none"> c) If the distributor requires billing and volume information for MM ICPs, traders must provide EIEP1 'replacement RM normalised' files for networks with interposed and conveyance arrangements. d) If the distributor requires billing and volume information for HHR ICPs, traders must provide EIEP1 'as billed' files. |
| Participants: | Trader/Distributor |
| Code reference: | Clause 12A.14 |
| Dependencies: | The use of system agreement (UoSA) between the distributor and the trader may also set out the distributor's billing policies and processes and requirements relating to the information that must be provided in this file. |

| Description of when this protocol applies |
|--|
| <p>For the purposes of EIEPs 1, 2 and 3:</p> <ul style="list-style-type: none"> a) a MM ICP (mass market ICP) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half-hour metering information (or has specified time-blocked periods) for the application of delivery prices b) a HHR ICP (half hour ICP) means an ICP that is not a MM ICP. <p>EIEP1 files are required for invoicing and reconciliation of network charges which are based on ICP fixed and variable delivery prices, to meet the distributor's network planning, pricing design, and regulatory information disclosure requirements, and to enable distributors to provide information to the extended reserve manager.</p> <p>The distributor and trader may also agree that the data provided in EIEP1 files may be used by consumer trusts/distributors for the calculation of income distribution amounts.</p> <p>Unless a distributor has requested otherwise, and the trader agrees (and that agreement is recorded in writing), EIEP1 must be used where a distributor has specified time blocked periods for the application of delivery prices.</p> <p>A data file formatted in accordance with EIEP1 is to be forwarded by the trader to the distributor to provide billing and volume information that enables the calculation of network charges for individual ICPs. EIEP1 files may also be provided to support buyer created invoices for network charges.</p> <p>The billing and volume information for MM ICPs contained in an EIEP1 format file provided by the trader to the distributor must use one of the following 'replacement RM normalised' reporting methodology for both interposed and conveyance arrangements. ies:</p> <p>As billed</p> |

Description of when this protocol applies

~~Incremental as billed normalised~~

~~Replacement RM normalised~~

~~Incremental RM normalised~~

The billing and volume information for HHR ICPs contained in an EIEP1 file provided by the trader to the distributor must use the 'as billed' reporting methodology.

~~The reporting methodology to be used must be as agreed and recorded in writing, or otherwise the distributor may specify its preferred reporting methodology in its delivery price schedule and associated pricing information (which may include its billing and settlement process). Traders must use reasonable endeavours to provide EIEP1 files that comply with the distributor's preferred reporting methodology.~~

~~In the absence of an agreed reporting methodology, or a preferred reporting methodology specified by the distributor, the default reporting methodology is 'replacement RM normalised' for interposed arrangements, and 'as billed' for conveyance arrangements.~~

Distributors use data in the EIEP1 files and from other sources (e.g. EIEP2, EIEP3, registry data, reconciliation manager reports) as applicable to their pricing and billing methodology to generate invoices for the fixed and variable network charges and to provide information to traders that supports their invoices for the network charges.

Traders may then use the information provided by distributors in their EIEP1 files to reconcile the network charges at detailed level.

Business requirements

1. The distributor and each trader must agree on the file transport mechanism by which the trader or distributor will provide information and the destination address. Non-manual interfaces use electronic file transfer either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. In the case of FTP a security mechanism must be used to protect confidentiality. Whatever method is agreed that method must be in a format approved and published by the Authority. The electronic file transport mechanism commonly used for EIEP files is the registry EIEP transfer hub (via the registry EIEP SFTP server).
2. Where information is to be transferred using email, the contents must be delivered in a secure manner and password protected.
3. Unless otherwise agreed between the parties, a trader must deliver any EIEP1 initial file containing billing and volume information for the previous month to the distributor by 1700 hours on the 5th business day (business day as defined in the Code) of the current month.
4. Unless otherwise agreed with the distributor, traders must deliver EIEP1 'replacement RM normalised' revision month files to distributors by 1700 hours on the 5th business day of the month following the month in which the revised submission information for the corresponding reconciliation revision month was delivered to the reconciliation manager. As revised submission information is provided to the reconciliation manager on the 13th business day, ~~the distributor may agree with~~ traders may provide that the EIEP1 revision month files ~~be provided~~ to the distributor any day between the 13th business day and 5th business day of the following month.
5. An agent may provide data on behalf of the relevant reconciliation participant, in which case the header for EIEP1 will identify the reconciliation participant. The appointment of an agent must be a permission function of the responsible reconciliation participant and receiving participants must allow for agents in their systems.
6. A trader or distributor must only use codes that are:
 - (a) stipulated in this document; or
 - (b) approved and published by the Electricity Authority (~~Authority~~); or
 - (c) determined in the registry and reconciliation manager functional specifications; or
 - (d) in the case of network price category codes or price component codes, these must be those in the distributor's published delivery price schedule (except where a delivery price is unbillable without repackaging the trader may determine and report its own price code).

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7. Information relating to individual price component codes must be formatted on separate lines.
8. Information provided in the file must be consistent with the terminology used in the Glossary of Standard Terms published by the Authority.
9. The file must contain all mandatory information, failure to provide the required information will result in the file being deemed as incomplete.
10. Information is to be provided in accordance with the following status codes unless otherwise specified:
- O Optional
 - M Mandatory
 - C Conditional - Mandatory if available, otherwise Null (also refer to validation rules)
11. To assist in understanding where these apply when files can be communicated both ways between participants, the relevant status code is given in the assigned column either Trader to Distributor or Distributor to Trader.
12. Recipients of EIEP1 files must be capable of receiving I (initial) and, R (complete replacement) files. and A trader may only provide a X (partial replacement) files if agreed by the distributor.
13. For trader to distributor files, unless the distributor has requested otherwise, and the trader agrees (and that agreement is recorded in writing),:
- (e) billing and volume data relating to non-half hour (MMNHH) ICPs (including ICPs with smart metering for which the distributor has specified time-blocked periods for the application of delivery prices) must be provided in a separate EIEP1 file to that of half hour (HHR) ICPs, with a file type of ICPMMRM;
 - (f) billing and volume data for HHR ICPs, if required by the distributor for billing of network charges, must be provided in a separate EIEP1 file to that for MM ICPs, with a file type of ICPHHAB.
- ~~13-14.~~ For distributor to trader files, it is preferable that the distributor provides matching separate files for NHH-MM ICPs and HHR ICPs, however where this isn't supported by the distributor's systems, or the parties have agreed to a single file, the distributor may provide a single file containing all ICPs. Each file must include the appropriate file type in the header record.
- ~~14-15.~~ Injection and extraction must to be shown with the 'energy flow direction' indicator, where X (extraction/volume consumed) together with a positive 'unit quantity' represents electricity leaving the network, and I (injection as a result of generation) together with a positive 'unit quantity' represents electricity entering the network (e.g. from embedded generation)..
- ~~15-16.~~ Delivery price schedules should have different price component codes for extraction and injection delivery prices, notwithstanding that the delivery price for injection may be \$0.00/kWh. If this is not the case, the extraction and injection volumes must be represented as separate records in the file and must not be netted off against each other or summated as this would result in incorrect interpretation of the data.
- ~~16-17.~~ The data in an EIEP1 file must cover a complete calendar month, unless the sender makes it clear that a different period applies. (For as billed this means the volume billed with a bill date during the report month).
- ~~17-18.~~ The 'report month' used in the report detail section must be the same as the 'report month' used in the header.
- ~~18-19.~~ If the trader or distributor becomes aware of a format error or that the file is incomplete, that party must advise the other party as soon as practicable after becoming aware of the issue.
- ~~19-20.~~ If no agreement can be reached as to whether the file is to be a partial or full replacement for the correction of the error as noted above, then a full replacement file must be provided.
- ~~20-21.~~ The first file for the report month must have file status I (initial). Subsequent files must either be R (full replacement), or X (partial replacement) if the distributor has agreed to receive a X (partial replacement) file. On receiving an R file the recipient must remove all previous data for that report month and replace it with the data from the new file. Data for individual ICPs can be replaced by using

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an X file status, in which case just data for those ICPs must be removed and replaced. ~~X files can only contain replacement data for ICPs included in the initial I file or data for ICPs that were not included in the Initial file.~~

~~24-22.~~ If any previously transmitted records are reversed these must be represented by re-reporting the data but with the following changes:

- (a) Reversal of the sign of the originally transmitted "unit quantity" (recognising that the original unit quantity may have been negative and therefore the reversal would be positive);
- (b) Capacity and demand figures remain as previously reported and the reversal is inferred from the presence of negative days in the associated 'chargeable days' field; and
- (c) The 'start date' and 'end date' of a reversal record must replicate the dates that were provided with the original incorrect data, and be in the correct chronological order.

~~22-23.~~ Prior period correction events, the treatment of which is discussed in each of the reporting methodology options ([as appropriate](#)), include:

- (d) cancelled switches;
- (e) backdated switches;
- (f) late processing of switches;
- (g) switch read changes;
- (h) late processing of meter changes;
- (i) correction of readings from stopped/slow/fast meters;
- (j) meter reading errors; and
- (k) meter channel multiplier errors.

~~23. For networks subject to a conveyance UoSA, and unless otherwise agreed, traders must provide billing and volume information in accordance with the 'as billed' reporting methodology and the distributor's invoices for network charges must reflect the as billed data provided by traders.~~

~~24. For networks subject to an interposed UoSA, the preferred reporting methodology will normally be one of the normalised reporting methodologies. However, the distributor may agree with traders to accept and process EIEP1 files based on the 'as billed' or one of the normalised reporting methodologies. If the distributor agrees to accept and process both as billed and normalised files, and the trader provides an as billed file, then the following will apply:~~

- ~~(a) — If, in its volume calculations used for billing, there is any spreading or scaling of UFE related volumes across traders, the distributor must normalise the as billed volumes provided by the trader(s)~~
- ~~(b) — If the 'as billed' reporting methodology was agreed on the basis the distributor must be able to normalise the as billed volumes, or an 'as billed' file is provided without it being an agreed reporting methodology, the distributor may normalise the as billed volumes provided by the trader~~
- ~~(c) — In all other circumstances not covered by (a) or (b), the distributor's invoice for both fixed and variable network charges must reflect the as billed data provided by the trader unless the trader and distributor agree that the distributor may normalise the as billed data.~~

[24. If the distributor requires billing and volume information for MM ICPs, traders must provide EIEP1 'replacement RM normalised' files for networks with interposed and conveyance arrangements.](#)

[25. If the distributor requires billing and volume information for HHR ICPs, traders must provide EIEP1 'as](#)

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[billed' files \(file type ICPHHAB\).](#)

[26.](#) Traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable at the time of customer billing and forces repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) in which case the trader may determine and report its own price code and repackaged price.

~~25-27.~~ [Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the 'trading period run on technique' which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.](#)

'As billed' methodology (for HHR ICPs)

~~26-28.~~ As billed is a reporting methodology that for both the fixed and variable network charges reflects the actual quantities by network price component code billed to the trader's customer (whether unbundled from or bundled with the retail charges on the customer's bill) with a bill date at any time in the report period. All billed quantities that have a bill date in the report period must be included in the as billed EIEP1 file. The as billed methodology also requires that:

- (a) fixed and variable charges by network price component code are applied as per the delivery prices in the distributor's published delivery price schedule;
- (b) ICPs with an 'Active' registry [ICP](#) status, and for which the trader was the responsible trader for any part of the report period, but which were not billed by the trader during the report period, are represented by a single detail record per ICP, with UB (unbilled) as the 'meter read status'. For these ICPs, all other mandatory fields must be left blank;
- (c) where the 'end date' represents a final bill date (e.g. where a customer is moving out or is switching traders), the 'meter read status' must be shown as FL (final);
- (d) as billed data must contain fixed and variable quantities as billed to the customer (whether unbundled from or bundled with the retail charges on customer bills);
- (e) all corrections for under or over-estimates, and for prior period correction events, must be included in future reporting periods by reflecting the corresponding correction that is applied to the customer's bill; and
- (f) the I (initial) file must show the correct start and end dates for any corrections or omissions relating to prior periods.

~~27-29.~~ Where an ICP has been vacant but has an Active [ICP](#) status on the registry, the 'start date' reported in an 'as billed' file must be the date of the new customer contract. Note this may result in data gaps in the 'as billed' file between the new 'start date' and the previous 'end date' associated with the previous customer at that ICP.

~~28-30.~~ The start date for as billed must be the 'bill from' date on the bill to the customer which has had a bill produced during the report period.

~~29-31.~~ The end date for as billed must be the 'bill to' date on the bill to the customer.

~~30-32.~~ The RD (read) status must be used for 'meter read status' if the bill to the customer was based on an actual read, otherwise the status code ES (estimate) must be used. If any bills to a customer have been reversed during the report period, the RV status code must be used.

~~31-33.~~ In an 'as billed' file, the RV (reversal), RD (read), ES (estimate) and FL (final) 'meter read status' applies to both F (fixed) and V (variable) network price component code records.

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'Incremental as billed normalised' methodology

~~32.~~ 'Incremental as billed normalised' is a reporting methodology that for the variable network charges reflects the actual billed volume plus an estimate of unbilled volume from the last billed read to the end of the month, less the estimate of unbilled volume in the previous month, and for the fixed network charges reflects the chargeable days, in both cases for all ICPs with a registry status of Active against the trader at any time in the report period. This methodology requires:

- ~~(a)~~ — that traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price.;
- ~~(b)~~ — the provision of data for all ICP-days that have had the registry status of Active against the trader at any time in the report period whether the ICP was in fact billed or not billed within the report period;
- ~~(c)~~ — that the 'meter read status' code is set to indicate that quantities have been calculated based on an:
 - ~~(i)~~ — actual read (RD code) processed during the month being reported; or
 - ~~(ii)~~ — estimate read (ES code); and
- ~~(d)~~ — actual or estimated volumes must account for any vacant consumption and adjustments for prior period correction events.

~~33.~~ The unbilled consumption process must be undertaken for each variable network price component code, and be summated at meter channel – price component code level.

~~34.~~ With this methodology, all over or under estimates of variable quantities reported in previous months will self-correct in subsequent months as actual meter reads are obtained and processed, so that all metered volumes will be accounted for over the full lifecycle of the ICP with the trader.

~~35.~~ The I (initial) file for the 'incremental as billed normalised' methodology must show the correct start and end dates for any corrections or omissions relating to prior periods. Reversals must be shown as a separate line for each from/to date range as previously reported, and revised data must be shown as a single date range from where the error occurred to the end of the relevant end date in the current report period.

~~36.~~ If the data in an I (initial) file is found to be materially corrupted shortly after it is transmitted by either party then it must be brought to the attention of the recipient as soon as practicable, and the recipient may require an R or X file to be sent that fully replaces the corrupted file. In all other circumstances, any errors in the data will be corrected in subsequent report period data.

~~37.~~ An I (initial) file may include adjustments for previously reported data where a need for correction is identified. An error may be corrected by providing both a reversal (RV) of the originally transmitted incorrect data and supplying replacement corrected data.

~~38.~~ In an 'incremental as billed normalised' file RD (read), ES (estimate) and RV (reversal) 'meter read status' applies to both F (fixed) and V (variable) network price component code records.

'Replacement RM normalised' methodology (for MM ICPs)

~~39-34.~~ 'Replacement RM normalised' is a reporting methodology that for the variable charges reflects volume information submitted to the reconciliation manager, and for the fixed network charges reflects the chargeable days, in both cases for all ICP-days with a registry [ICP](#) status of Active against the trader at any time in the report period.

~~40-35.~~ This method requires:

- ~~(a)~~ that traders must report the distributor's price component code and delivery price in the

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EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price;

- (b) the provision of data for all ICP-days that have had the registry status of Active against the trader at any time during the report period;
- (c) volume reported by price component code must align in aggregate (subject to [minor exceptions that may occur with month 0¹ processing and](#) timing of reconciliation revisions) with the volume information submitted to the reconciliation manager;
- (d) where used by the distributor for invoicing network charges, EIEP1 files must be provided for:
 - (i) the initial month 0;
 - (ii) revision months aligned with the reconciliation revision cycle (months 1, 3, 7, 14)² ~~or those revision months agreed between the parties, however as a minimum, files must be provided for revision month 3 and any additional revision month if requested by the distributor;~~ and;
 - (iii) any other revision month aligned with special reconciliations that may be directed by the Authority;
- (e) ~~while the parties may agree in writing that the distributor is not required to produce a wash-up invoice for all the revision files provided by traders;~~
 - ~~(iv)(i)~~ [\(i\)](#) the distributor must as a minimum process the files provided by traders and produce an associated wash-up invoice for network charges for:
 - 1) revision month 3;
 - ~~2)~~ [any additional revision month requested by a trader;](#) [and](#)
 - ~~3) 2)~~ ~~any additional revision month for which revision files have been provided by traders in response to a request by the distributor;~~ [and](#)
 - [3\)](#) [any additional revision month for which revision files have been provided by traders aligned with special reconciliation revisions that may be directed by the Authority;](#) [and](#)
 - ~~(v)(ii)~~ ~~notwithstanding that the parties may agree that the distributor is not required to produce a wash-up invoice for all revision month files provided by traders (other than for revision month 3),~~ [the distributor may at its discretion produce a wash-up invoice for any or all of revision months 1, 7 and/or 14;](#)
- (f) [that the distributor's processing of a 'replacement RM normalised' revision file must result in full replacement of all data provided in the previous file, and for the avoidance of doubt](#)

¹ [Month 0 is the initial submission file that reconciliation participants must provide to the reconciliation manager on business day 4 of a month for- the previous month-, and is sometimes also referred to as R0.](#)

² [Months 1, 3, 7, 14 is the revision submission file that reconciliation participants must provide to the reconciliation manager on business day 13 of a month for- the previous month, and is sometimes also referred to as R1, R3, R7 and R14 respectively.](#)

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there will be valid reasons (e.g. backdated switches) why some ICPs appear in a previous file but not in the replacement file, or appear in the replacement file but not in the previous file;

~~(e)~~(g) volumes reported in revision month files to correct for prior period correction events must align with the volumes submitted to the reconciliation manager for the relevant reconciliation revision cycle.

36. Each revision file must have a 'file status' of R (replacement) ~~as file type~~ and fully replace the previous file.

37. Where an ICP has belonged to the trader for only part of the month, then the date range must only be for that part of the month when the ICP was 'Active' in the registry and the responsibility of that trader.

38. The 'start date' must always be in the same month as the report month, and be either:

- a) the first day of the month being reported;
- b) the date of the day of the event date where the ICP has been electrically connected (if the ICP previously had a registry ICP status of 'Ready') or electrically reconnected (if the ICP previously had a registry ICP status of 'Inactive'), reflecting when the registry ICP status of 'Active' commences; or
- c) the date the ICP switched to the trader.

39. The 'end date' must always be in the same month as the report month, and be either:

- a) the last day of the month being reported;
- b) the date of the day before the event date where the ICP has been electrically disconnected, reflecting when the registry ICP status of 'Active' ends before it changes to 'Inactive' or 'Decommissioned'; or
- c) the date the ICP switched away from the trader (which is the date that the ICP switched to the new trader minus 1 day).

40. Relationship between start date, end date, registry event date and registry 'Active' ICP status:

- a) 'start date' and 'end date' must align with the registry 'Active' ICP status;
- b) Clause 6 of Schedule 15.2 of the Code states that, for NHH meter readings:
 - a. If the NHH meter reading is also a switch event meter reading, switch event meter readings are deemed to apply -at 0000 hours on the day of the switch event for the gaining trader and to end at 2400 hours on the day before the switch event date for the losing trader.
 - b. In all other cases, up to and including 2400 hours on the day of meter reading.
- ~~the registry functional specification requires that "by convention, all events are deemed to occur at 0:00:00 on the day of the event date and to end at 23:59:59 on the day before the event date of the next event of the same type";~~
- c) where an ICP has been electrically connected (or reconnected), the event date should be the day the ICP was electrically connected (or reconnected), and as it is deemed to have occurred at 0:00:00 on the day of the event date the 'start date' for the purposes of trader EIEP1 files and distributor billing/EIEP1 files (i.e. when the registry ICP status of 'Active' commences).;
- d) where an ICP has been disconnected or decommissioned, the event date should be the day the ICP was electrically disconnected or decommissioned, but as the event is deemed to have occurred at 23:59:59 on the day before the event date the 'end date' for the purposes of trader EIEP1 files and distributor billing/EIEP1 files must be the date of the day before the event date (i.e. when the registry ICP status of 'Active' ends before it changes to Inactive').

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'Incremental RM normalised' methodology

41. ~~'Incremental RM normalised' is a hybrid reporting methodology that for the variable network charges reflects the volume information submitted to the reconciliation manager for the initial month. Information is adjusted to account for the incremental changes in the volume information submitted to the reconciliation manager for the revision months, and for the fixed network charges reflects the chargeable days, in both cases for all ICP-days with a registry status of Active against the trader at any time in the report period.~~

42. ~~This method requires:~~

- ~~(a) — that traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price;~~
- ~~(b) — the provision of data for all ICP-days that have had the registry status of Active against the trader at any time during the report period;~~
- ~~(c) — volumes reported by network price component code must align in aggregate with the volume information submitted to the reconciliation manager:

 - ~~(i) — for the relevant initial reconciliation (month 0); and~~
 - ~~(ii) — adjusted to reflect incremental changes in volume information submitted to the reconciliation manager within the report period for the latest reconciliation revision cycles (months 1, 3, 7 and 14); and~~
 - ~~(iii) — adjusted to reflect incremental changes in volume information submitted to the reconciliation manager for any other special reconciliations that may be directed by the Electricity Authority;~~~~
- ~~(d) — that where incremental changes in submission information is for ICPs that are no longer the responsibility of the trader in the current report period, the ICPs must be added to the file along with the associated incremental changes in volume information to ensure completeness.~~

General requirements for the normalised methodologies

43. ~~A normalised data file with a 'file status' of R fully replaces the previously transmitted normalised data file.~~

44. ~~Apart from prior period correction events for the 'incremental as billed normalised' files where date ranges span multiple months, the normalised methodologies enable distributors to align their network billing and revenue processes with calendar months. The incremental methodologies enable a single reporting, billing, settlement and reconciliation process for each month, without the need for wash-ups. The replacement methodology requires multiple reporting, billing, settlement and reconciliation processes for each month.~~

45. ~~For the normalised reports, the date range for most ICPs will be from the first day to the last day of the month. However, where an ICP has belonged to the trader for only part of the month, then the date range must only be for that part of the month when the ICP was Active in the registry and the responsibility of that trader. The date range for an ICP may also cover prior months where reporting a prior period correction event.~~

46. ~~The 'start date' for an ICP in an incremental normalised file must be either:~~

- ~~(a) — the first day of the month being reported;~~

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- (a) ~~the applicable start date for any prior period correction event (refer also to the Business Requirements for 'incremental as billed normalised' and reversals associated with prior period correction events);~~
- (b) ~~the date of liveness (if the ICP previously had a registry status of Ready) or reconnection of the ICP (if the ICP previously had a registry status of Inactive); or~~
- (c) ~~the date the ICP switched to the trader, which may be in a prior month if the ICP switched in a prior month but has not been previously reported.~~

47. ~~The 'end date' for an incremental normalised file must be either:~~

- (a) ~~the last day of the month being reported;~~
- (b) ~~the applicable end date for any prior period correction event;~~
- (c) ~~the date of disconnection, if the ICP's registry status changes from Active to either Inactive or Decommissioned; or~~
- (d) ~~the date the ICP switched away from the trader (which is the date that the ICP switched to the new trader minus 1 day).~~

48. ~~In an incremental normalised file, the RD (read) status must be used for 'meter read status' wherever there has been an actual read during the report period, and the ES (estimate) status must be used if there has been no actual read during the report period. The RD and ES meter read status must be used for both fixed and variable network price component codes.~~

49. ~~The 'start date' for a 'replacement RM normalised' file must always be in the same month as the report month. This will align the volume reported for each report month with volume information submitted to the reconciliation manager for each month.~~

50. ~~In both the 'incremental as billed normalised' and 'incremental RM replacement normalised' files, the RV (reversal) 'meter read status' code applies to both the fixed and variable price component code records.~~

~~Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the 'trading period run on technique' which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.~~

| General requirements |
|--|
| <p>1. If there are any conflicts between this document and the Code, the Code takes precedence.</p> <p>2. In general, all participants must provide the recipient with:</p> <ul style="list-style-type: none"> (a) accurate information for all points of connection at which they are responsible for the current report period (b) when available and applicable to the methodology, revised information for all points of connection at which they have purchased or sold electricity during any previous report period (c) any additional information requested in respect of any report period. <p>3. A number of data transfers are required between participants for the EIEP process to take place. Unless the relevant participants have previously agreed otherwise, these data flows must be those required by the Code. At all times data transfers must take place in a secure and predictable manner.</p> <p>4. It is the responsibility of participants to comply with the Privacy Act when exchanging customer information.</p> |

| Data inputs |
|---|
| Information from a participant's billing system and/or reconciliation submission files. |

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | Distributor to Trader: Mandatory/ Optional/ Conditional | Validation rules |
|---------------------------|---------|---|---|---|
| <i>Header record type</i> | Char 3 | M | M | HDR – indicates the row is a header record type |
| <i>File type</i> | Char 7 | M | M | <p>For Trader to Distributor files:</p> <p>If 'Aas billed' file for HHR ICPs - then ICPMMAB (for NHH) or ICPHHAB (for HHR)</p> <p>If 'Incremental As billed normalised' then ICPMMNM, if 'Rreplacement RM normalised' file for MM ICPs - then ICPMMRM or if 'Incremental RM normalised' then ICPMMSP.</p> <p>For Distributor to Trader files:</p> <p>If split separate billing file for HHR ICPs – ICPHHR</p> <p>If split separate billing file for NHH MM ICPs – ICPNHHICPMM</p> <p>If single billing file for both HHR and NHH MM ICPs - ICPALL</p> |
| <i>Version of EIEP</i> | Num 3.1 | M | M | Version of EIEP that is being used for this file. |

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | Distributor to Trader: Mandatory/ Optional/ Conditional | Validation rules |
|---|-----------------|---|---|---|
| <i>Sender</i> | Char 20 | M | M | Name of sending party. Participant identifier to be used if the sender is a participant. E.g. POCO where Powerco as a participant, is the sender, andor NGConsulting where as an agent, NGConsulting -is the sender on behalf of a participant. |
| <i>Sent on behalf of participant identifier</i> | Char 4 | M | M | Participant identifier of party on whose behalf volume data is provided. |
| <i>Recipient participant identifier</i> | Char 4 | M | M | Valid recipient participant identifier |
| <i>Report run date</i> | DD/MM/YYYY Y | M | M | Date the report is run |
| <i>Report run time</i> | HH:MM:SS | M | M | Time the report is run |
| <i>Unique file identifier</i> | Char 15 | M | M | Number that uniquely identifies the file |
| <i>Number of detail records</i> | Num 8 | M | M | Total number of DET records in report |
| <i>Report period start date</i> | DD/MM/YYYY Y | M | M | Report run start date (inclusive) |
| <i>Report period end date</i> | DD/MM/YYYY Y | M | M | Report run end date (inclusive) |
| <i>Report month</i> | YYYYMM | M | M | The month the report is run for. |
| <i>Utility type</i> | Char 1 | M | M | Type of energy supply; G = Gas; or E = Electricity |
| <i>File status</i> | Char 1 | M | M | I (Initial) or R (Replacement) or X (Partial Replacement , replace only those ICPs contained in this partial replacement file) |

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | Distributor to Trader: Mandatory/ Optional/ Conditional | Validation rules |
|---------------------------|---------|---|---|--|
| <i>Detail record type</i> | Char 3 | M | M | DET – indicates the row is a detail record. |
| <i>ICP identifier</i> | Char 15 | M | M | Unique identifier for an ICP created by a distributor in accordance with clause 1 of Schedule 11.1 of the Code |

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | Distributor to Trader: Mandatory/ Optional/ Conditional | Validation rules |
|---------------------------------------|-----------------|--|--|---|
| <i>Start date</i> | DD/MM/YYYY Y | C | M | Start date of fixed or variable record. Mandatory unless as billed file and 'meter read status' equals UB |
| <i>End date</i> | DD/MM/YYYY Y | C | M | End date of fixed or variable record. Mandatory unless as billed file and 'meter read status' equals UB |
| <i>Price description</i> | Char 75 | O | O | Null unless required to further describe the price code. |
| <i>Unit of measure</i> | Char 25 | C | M | The type of unit applicable to the value in the 'Unit quantity' field. Examples are provided in table 3. Mandatory unless as billed file and 'meter read status' equals UB. |
| <i>Unit quantity</i> | Num 12.2 | C | M | Unit quantity as appropriate to the 'Unit of measure' field (e.g. injection or extraction volume in kWh, chargeable demand or capacity in kW or kVA, or the number of chargeable items for connection, equipment or fixture per day delivery prices) Mandatory unless as billed file and 'meter read status' equals UB. |
| <i>Meter read status</i> | Char 2 | C | C | Mandatory except Null where only fixed charges apply. RD = Read, ES = Estimate, RV = Reversal. For as billed files only, FL = Final, UB = Unbilled. |
| <i>POC</i> | Char 8 | C | M | Valid code for the point of connection to which the ICP is connected for the period between the start date and the end date. For local networks 'POC' is typically referred to as the GXP. Mandatory for trader to distributor files where relevant to the distributor's pricing (and Null in the as billed file where the 'meter read status' equals UB). |
| <i>Network participant identifier</i> | Char 4 | M | M | Network participant identifier |
| <i>Spare</i> | | O | O | Empty |

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | Distributor to Trader: Mandatory/ Optional/ Conditional | Validation rules |
|------------------------------|----------|---|---|--|
| <i>Price component code</i> | Char 25 | C | M | Price component code ³ for each fixed and variable delivery price as per the distributor's published delivery price schedule. Mandatory unless as billed file and 'meter read status' equals UB |
| <i>Delivery price</i> | Num 12.6 | C | M | Fixed or variable delivery price ⁴ as per the distributor's published delivery price schedule. The delivery price is to be expressed in \$ excl GST and net of prompt payment discount. Mandatory unless as billed file and 'meter read status' equals UB |
| <i>Fixed/Variable</i> | Char 1 | C | M | F (Fixed) or V (Variable). Mandatory unless as billed file and 'meter read status' equals UB |
| <i>Chargeable days</i> | Int 7 | C | C | Number of days between start date and end date (both dates inclusive) where used in the network charge calculation for per day prices. otherwise Null Mandatory unless as billed file and 'meter read status' equals UB |
| <i>Network charge</i> | Num 11.2 | C | M | The network charge (in \$ excluding GST, net of any prompt payment discount) which is the product of 'Unit quantity', 'Chargeable days' and 'Delivery price' as applicable. Mandatory unless as billed file and 'meter read status' equals UB, and where information supports an invoice. |
| <i>Register content code</i> | Char 6 | C | O | A code that identifies the type of information being recorded by the channel and must reflect the physical or programmed configuration of the metering installation. Selected from a list in the registry. For clarity, where HHR data is framed aggregated for time-blocked prices the register content code must reflect the physical or programmed channel. |

³ Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage.

⁴ Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage.

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | Distributor to Trader: Mandatory/ Optional/ Conditional | Validation rules |
|--|-----------------|---|---|--|
| <i>Period of availability</i> | Num 2 | C | O | Minimum number of hours within a day that supply is available, (or controlled part is available for an inclusive channel), (<=24). (<=24). Where HHR data is framed aggregated for time-blocked prices the period of availability must reflect the physical or programmed NHH channel, rounded up or down where the period is for an odd number of trading periods (provided the total for a day is <=24). |
| <i>Report month</i> | YYYYMM | M | M | The month for which the report is run. Must match the month given in the header for 'Report Month'. |
| <i>Customer no</i> | Char 15 | C | O | Trader's customer number (the identifier that the trader assigns to the customer, which remains the same across all the connections for the customer). Required in the trader to distributor file where available, otherwise Null (and Null in the as billed file where the 'meter read status' equals UB |
| <i>Consumer no</i> | Char 15 | C | O | Trader's consumer number. Defined as the trader's unique ID that links the premises and the customer. Required in the trader to distributor file where available, otherwise Null (and Null in the as billed file where the 'meter reading status' equals UB |
| <i>Invoice date</i> | DD/MM/YYYY Y | O | M | |
| <i>Invoice or invoice reference number</i> | Char 20 | O | M | Populate with actual invoice number or a reference number which is quoted on the invoice to the trader. |
| <i>Energy flow direction</i> | Char 1 | C | C | An identifier of whether the channel records the import (injection from the ICP into the network) ("I"), or the export (extraction from the network to the ICP) ("X"). Mandatory unless as billed and 'meter read status' equals UB. Null if fixed charge |

Protocol specifications

1. The information is to be provided as a comma delimited text file. Commas are therefore prohibited within fields.
2. Each formatted file must consist of one or more records, with each record being a single line of text as defined in the business rules. Records must be delimited with one of the following:
 - (a) a carriage return character and a line feed character combination (ASCII characters 13 and 10) commonly used in Windows based programs; or
 - (b) a line feed character (ASCII character 10) commonly used in Unix based programs; or
 - (c) a carriage return character (ASCII character 13) commonly used in Mac based programs.
3. Data fields within files must be defined using the attributes in the table following these specifications.
4. Matching of file names, code list values, etc, must be case insensitive.
5. Each data file must contain only one header but can contain any number of detail records.
6. The first record of a file must contain 'Header' information followed by one or more detail lines.
7. Each file created must have a file name as outlined below and must have names that are unique within any month.

Sender + Utility Type (only "E" to be used) + Recipient + File Type + Report Month + Report Run Date + UniqueID# (e.g. hhmm run time, or ICP but limited to Char (60)) with an extension of .TXT and with the components concatenated using the underscore character, to assist readability.

e.g. TRUS_E_UNET_ICPMMRMAB_2019100007_2019110008025_UniqueID.TXT
 [Char4_Char1_Char4_—Char7_yyyyymm_yyyymmdd_Char60.TXT]

8. The format ~~must provide~~s for ~~a number of different several trader to distributor~~ EIEP1 file types supporting the following:

(a) For trader to distributor files:

(i) ICPMMRM - used for 'replacement RM normalised' file for MM ICPs, where ICP level data summed at meter channel - delivery price level aligns in aggregate with the volume information submitted to the reconciliation manager for a report month

(ii) ICPHHAB – used for 'as billed' file for HHR ICPs, where ICP level data reflects that billed to customers in a report month

(b) For distributor to trader files:

(i) ICPMM - used for a separate billing file of MM ICPs

(ii) ICPHHR – used for a separate billing file of HHR ICPs

(iii) ICPALL - used for a single billing file of all ICPs

~~(d) Individual ICP (with matching total days, kWh, and other associated network charges such as capacity charges) where the file type corresponds to the reconciliation type~~

~~(e) File type ICPMMAB provides ICP level 'as billed' data summed at meter channel - delivery price level for NHH ICPs.~~

~~(f) File type ICPHHAB provides ICP level 'as billed' data for HHR ICPs billed in previous period.~~

~~(g) File type ICPMMNM provides 'incremental as billed normalised' ICP level data summed at meter channel - delivery price level.~~

~~(h) File type ICPMMRM provides 'replacement RM normalised' ICP level data summed at~~

| Protocol specifications |
|---|
| <p>meter channel—delivery price level that aligns in aggregate with the volume information submitted to the reconciliation manager.</p> <p>File type ICPMMSP provides 'incremental RM normalised' ICP level data summed at meter channel—delivery price level that aligns in aggregate with the volume information submitted to the reconciliation manager for the relevant initial reconciliation (month 0), and in addition reflects incremental changes in volume information submitted to the reconciliation manager for the latest reconciliation revision cycle (months 1, 3, 7 and 14) and any other special reconciliations if directed by the Electricity Authority.</p> |

| Data outputs |
|---|
| Completed file for transmission to traders. |

2 Table of codes used in EIEP1

2.1 Table 1 List of attributes to define data fields used in EIEP1

| Logical format | Data type | Rules | Example |
|----------------|-----------|---|---|
| INT (n) | Integer | <p>ASCII representation of an integer number (ie no decimals), no leading zeros, no spaces, a leading "-" if negative (no sign if positive), with 1 to n digits.</p> <p>Numbers only: ASCII characters 48 to 57, and 45 where applicable.</p> | <p>INT (4)</p> <p>12</p> <p>-1234</p> |
| NUM (n.d) | Decimal | <p>ASCII representation of a decimal number (ie a rational number), no spaces, a leading "-" if negative (no sign if positive), with up to n digits including up to (n minus d) digits to the left of the decimal place, and up to d digits to the right of the decimal place.</p> <p>For integers, the decimal point is not required.</p> <p>A decimal point on its own must not be used to represent zero (use "0")</p> <p>Trailing zeros are optional.</p> <p>No leading zeros other than when the number starts with "0."</p> <p>Numbers only: ASCII characters 48 to 57, and 45/46 where applicable.</p> | <p>NUM (6.2)</p> <p>123.45</p> <p>1234.0</p> <p>-12.32</p> <p>NUM (6.3)</p> <p>-0.123</p> <p>23.987</p> <p>987.000</p> <p>8</p> |

| Logical format | Data type | Rules | Example |
|----------------|-----------|--|--|
| CHAR (n) | Text | Up to n characters (ASCII characters 32 to 43 and 45 to 126 only). As commas (ASCII character 44) are used as field separators, they must not be used within the field data (it is recommended that any commas found in source data be changed to a semi-colon (ASCII character 59) when files are created). Fields must not contain any leading or trailing spaces. | The quick brown fox |
| DATE | Date | ASCII format with: Year represented as: — YYYY for century and year Month represented as: — MM to display leading zero Day represented as — DD to display leading zero ASCII format for any separators used | YYYYMMDD e.g. 20050216 DD/MM/YYYY e.g. 16/02/2005 |
| TIME | | ASCII in 24 hour format Hour represented as HH with leading zeros Minutes represented as MM with leading zeros Seconds represented as SS with leading zeros | HH:MM:SS e.g. 13:15:01 HH:MM e.g. 13:15 |
| | | ASCII format for any separators used Note: both NZST and NZDT will be used and will be indicated as necessary | |
| DATETIME | Date/Time | ASCII format with same rules as both Date and Time Data Types | YYYYMMDDHHMMSS e.g. 20050216131501 |
| NULL | Null | Field contains no data | |

2.2 Table 2 ASCII character set for use within fields of EIEP1.

ASCII character set for use within fields of EIEPs

| Character | ASCII |
|-----------|-------|
| 32 | Space |
| 33 | ! |
| 34 | " |
| 35 | # |
| 36 | \$ |
| 37 | % |
| 38 | & |
| 39 | ' |
| 40 | (|
| 41 |) |
| 42 | * |
| 43 | + |
| | |
| 45 | - |
| | |
| 46 | . |
| 47 | / |
| 48 | 0 |
| 49 | 1 |
| 50 | 2 |
| 51 | 3 |
| 52 | 4 |
| 53 | 5 |
| 54 | 6 |
| 55 | 7 |
| 56 | 8 |
| 57 | 9 |
| 58 | : |
| 59 | ; |
| 60 | < |
| 61 | = |
| 62 | > |
| 63 | ? |

| Character | ASCII |
|-----------|-------|
| 64 | @ |
| 65 | A |
| 66 | B |
| 67 | C |
| 68 | D |
| 69 | E |
| 70 | F |
| 71 | G |
| 72 | H |
| 73 | I |
| 74 | J |
| 75 | K |
| 76 | L |
| 77 | M |
| 78 | N |
| 79 | O |
| 80 | P |
| 81 | Q |
| 82 | R |
| 83 | S |
| 84 | T |
| 85 | U |
| 86 | V |
| 87 | W |
| 88 | X |
| 89 | Y |
| 90 | Z |
| 91 | [|
| 92 | \ |
| 93 |] |
| 94 | ^ |
| 95 | _ |
| 96 | ` |

| Character | ASCII |
|-----------|-------|
| 97 | a |
| 98 | b |
| 99 | c |
| 100 | d |
| 101 | e |
| 102 | f |
| 103 | g |
| 104 | h |
| 105 | i |
| 106 | j |
| 107 | k |
| 108 | l |
| 109 | m |
| 110 | n |
| 111 | o |
| 112 | p |
| 113 | q |
| 114 | r |
| 115 | s |
| 116 | t |
| 117 | u |
| 118 | v |
| 119 | w |
| 120 | x |
| 121 | y |
| 122 | z |
| 123 | { |
| 124 | |
| 125 | } |
| 126 | ~ |
| | |
| | |
| | |

2.3 Table 3 Unit of measure table

| Unit | Description |
|--|---|
| kWh | kilowatt hour energy (real energy) |
| kW | kilowatt demand (real power), or capacity |
| kVAh | kilovolt ampere hour energy (apparent energy) |
| kVA | kilovolt ampere demand (apparent power), or capacity rating |
| kVArh | kilovolt ampere reactive hour energy (reactive energy) |
| kVAr | kilovolt ampere reactive demand (reactive power) |
| kVA-km | kilovolt ampere capacity multiplied by kilometres |
| Con or ICP | used for per connection per day or per ICP per day delivery prices |
| Equipment | typically used for dedicated equipment delivery prices (e.g. transformers) |
| Fixture | typically used for per fixture delivery prices associated with streetlighting |
| <p>Note: This list is not exhaustive, alternative units of measure and descriptions may be used if contained in the distributor's published delivery price schedule.</p> | |

3 — Examples of files for EIEP 1

File examples are shown in tabular format with column headings for clarity, actual files are comma delimited and do not contain column headings. Changes from version 10 are not tracked.

3.1 — Example of standard file — Incremental as billed normalised

| HDR | ICPMNM | 10 | TRDR | TRDR | DIST | 04/11/2012 | 4:04:5 | 40455 | 8 | 04/10/2012 | 31/10/2012 | 201210 | E | ↓ | |
|--------------|-----------------|------------|------------|---------------------|-----------------|---------------|-------------------|---------|--------------------------------|------------|----------------------|----------------|----------------|-----------------|----------------|
| RECOR D TYPE | ICP | START DATE | END DATE | PRICE CATEGORY CODE | UNIT OF MEASURE | UNIT QUANTITY | METER READ STATUS | POG | NETWORK PARTICIPANT IDENTIFIER | SPARE | PRICE COMPONENT CODE | DELIVERY PRICE | FIXED VARIABLE | CHARGEABLE DAYS | NETWORK CHARGE |
| DET | 0973498743DT297 | 01/10/2012 | 31/10/2012 | | CON | 4 | | EKT0661 | DIST | | DT001-FIXD | 0.18 F | | 31 | 5.58 |
| DET | 0973498743DT297 | 01/10/2012 | 31/10/2012 | | KWH | 212 | ES | EKT0661 | DIST | | DT001-AICO | 0.102 V | | | 21.62 |
| DET | 0000847534DTB30 | 18/10/2012 | 31/10/2012 | | CON | 4 | | DGA0221 | DIST | | DT002-FIXD | 0.18 F | | 44 | 2.52 |
| DET | 0000847534DTB30 | 18/10/2012 | 31/10/2012 | | KVA.KM | 18.86 | | DGA0221 | DIST | | DT002-CAPY | 0.05 F | | 44 | 13.20 |
| DET | 0000847534DTB30 | 18/10/2012 | 31/10/2012 | | KWH | 439 | RD | DGA0221 | DIST | | DT002-CTRL | 0.089 V | | | 39.07 |
| DET | 0000847534DTB30 | 18/10/2012 | 31/10/2012 | | KWH | 892 | RD | DGA0221 | DIST | | DT002-24UC | 0.156 V | | | 139.15 |
| DET | 1000004384DT1CF | 01/10/2012 | 31/10/2012 | | CON | 4 | | EKT0661 | DIST | | DT001-FIXD | 0.18 F | | 31 | 5.58 |
| DET | 1000004384DT1CF | 01/10/2012 | 31/10/2012 | | KWH | 163 | RD | EKT0661 | DIST | | DT001-AICO | 0.102 V | | 31 | 16.63 |

| REGISTER CONTENT CODE | PERIOD OF AVAILAB | REPORT MONTH | CUSTOMER NO | CONSUMER NO | INVOICE DATE | INVOICE NO | ENERGY FLOW DIRECTION |
|-----------------------|-------------------|--------------|-------------|-------------|--------------|------------|-----------------------|
| | | 201210 | 29058779 | 894563212 | | | |
| IN | 19 | 201210 | 29058779 | 894563212 | | | X |
| | | 201210 | 24058193 | 630021548 | | | |
| | | 201210 | 24058193 | 630021548 | | | |
| CN | 19 | 201210 | 24058193 | 630021548 | | | X |
| UN | 24 | 201210 | 24058193 | 630021548 | | | X |
| | | 201210 | 17008953 | 220045683 | | | |
| IN | 19 | 201210 | 17008953 | 220045683 | | | X |

3.2 — Example of standard file — As billed

| HDR | ICPMMAB | 10 TRDR | | TRDR | DIST | 6/11/2012 | 4:33:22 | 43322 | 8 | 1/10/2012 | 31/10/2012 | 201210 | E | ↓ | |
|-------------|-----------------|------------|------------|----------------|-----------------|---------------|-------------------|---------|--------------------------------|-----------|----------------------|----------------|----------------|-----------------|----------------|
| RECORD TYPE | ICP | START DATE | END DATE | PRICE CAT CODE | UNIT OF MEASURE | UNIT QUANTITY | METER READ STATUS | POC | NETWORK PARTICIPANT IDENTIFIER | SPARE | PRICE COMPONENT CODE | DELIVERY PRICE | FIXED VARIABLE | CHARGEABLE DAYS | NETWORK CHARGE |
| DET | 0973498743DT297 | 05/09/2012 | 04/10/2012 | | | 1 | | EKT0664 | DIST | | DT001-FIXD | 0.18 | F | 30 | 5.40 |
| DET | 0973498743DT297 | 05/09/2012 | 04/10/2012 | | KWH | 116 | RD | EKT0664 | DIST | | DT001-24UC | 0.156 | V | | 18.10 |
| DET | 0973498743DT297 | 05/09/2012 | 04/10/2012 | | KWH | 99 | RD | EKT0664 | DIST | | DT001-CTRL | 0.102 | V | | 10.10 |
| DET | 0000847534DTB30 | 18/09/2012 | 17/10/2012 | | | 1 | | DGA0221 | DIST | | DT002-FIXD | 0.18 | F | 30 | 5.40 |
| DET | 0000847534DTB30 | 18/09/2012 | 17/10/2012 | | KVA.KM | 130 | | DGA0221 | DIST | | DT002-CAPY | 0.05 | F | 30 | 195.00 |
| DET | 0000847534DTB30 | 18/09/2012 | 17/10/2012 | | KWH | 577 | FL | DGA0221 | DIST | | DT002-DAY | 0.156 | V | | 90.01 |
| DET | 0000847534DTB30 | 18/09/2012 | 17/10/2012 | | KWH | 140 | FL | DGA0221 | DIST | | DT002-NITE | 0.089 | V | | 12.46 |

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| REGISTER CONTENT CODE | PERIOD OF AVAILAB | REPORT MONTH | CUSTOMER NO | CONSUMER NO | INVOICE DATE | INVOICENO | ENERGY FLOW DIRECTIO |
|-----------------------|-------------------|--------------|-------------|-------------|--------------|-------------|----------------------|
| | | 201210 | 356000023 | 56234521 | 05/10/2012 | 10000078963 | |
| UN | 24 | 201210 | 356000023 | 56234521 | 05/10/2012 | 10000078963 | X |
| CN | 19 | 201210 | 356000023 | 56234521 | 05/10/2012 | 10000078963 | X |
| | | 201210 | 852315620 | 10234589 | 18/10/2012 | 40023698780 | |
| | | 201210 | 852315620 | 10234589 | 18/10/2012 | 40023698780 | |
| D | 16 | 201210 | 852315620 | 10234589 | 18/10/2012 | 40023698780 | X |
| N | 8 | 201210 | 852315620 | 10234589 | 18/10/2012 | 40023698780 | X |

3.3 Example of prior period correction event for a multiplier error (x1, should have been x60)

(a) Original data reported for report months 200710—200802 (for simplicity shown in a single table)

| RECORD TYPE | ICP | START DATE | END DATE | PRICE CAT CODE | UNIT OF MEASURE | UNIT QUANTITY | METER READ STATUS | POC | NETWORK PARTICIPANT IDENTIFIER | SPARE | PRICE COMPONENT CODE | DELIVERY PRICE | FIXED / VARIABLE | CHARGEABLE DAYS | NETWORK CHARGE |
|-------------|--------------|------------|------------|----------------|-----------------|---------------|-------------------|---------|--------------------------------|-------|----------------------|----------------|------------------|-----------------|----------------|
| DET | 0000009997B3 | 01/10/2007 | 31/10/2007 | . | . | . | RD | GFD0334 | UNET | . | G400 | 0.125 | F | 31 | 3.88 |
| DET | 0000009997B3 | 01/10/2007 | 31/10/2007 | . | kWh | 689 | RD | GFD0334 | UNET | . | G400/24UC | 0.0736 | V | . | 50.74 |
| DET | 0000009997B3 | 01/11/2007 | 30/11/2007 | . | . | . | ES | GFD0334 | UNET | . | G400 | 0.125 | F | 30 | 3.75 |
| DET | 0000009997B3 | 01/11/2007 | 30/11/2007 | . | kWh | 540 | ES | GFD0334 | UNET | . | G400/24UC | 0.0736 | V | . | 39.74 |
| DET | 0000009997B3 | 01/12/2007 | 31/12/2007 | . | . | . | RD | GFD0334 | UNET | . | G400 | 0.15 | F | 31 | 4.65 |
| DET | 0000009997B3 | 01/12/2007 | 31/12/2007 | . | kWh | 299 | RD | GFD0334 | UNET | . | G400/24UC | 0.0804 | V | . | 24.04 |
| DET | 0000009997B3 | 01/01/2008 | 31/01/2008 | . | . | . | ES | GFD0334 | UNET | . | G400 | 0.15 | F | 31 | 4.65 |
| DET | 0000009997B3 | 01/01/2008 | 31/01/2008 | . | kWh | 498 | ES | GFD0334 | UNET | . | G400/24UC | 0.0804 | V | . | 40.04 |
| DET | 0000009997B3 | 01/02/2008 | 29/02/2008 | . | . | . | RD | GFD0334 | UNET | . | G400 | 0.15 | F | 29 | 4.35 |
| DET | 0000009997B3 | 01/02/2008 | 29/02/2008 | . | kWh | 242 | RD | GFD0334 | UNET | . | G400/24UC | 0.0804 | V | . | 19.46 |

| REGISTER CONTENT CODE | PERIOD OF AVAILABILITY | REPORT MONTH | CUSTOMER NO | CONSUMER NO | INVOICE DATE | INVOICE NO | ENERGY FLOW DIRECTION |
|-----------------------|------------------------|--------------|-------------|-------------|--------------|------------|-----------------------|
| - | - | 200710 | 402408386 | 2701721110 | - | - | - |
| UN | 24 | 200710 | 402408386 | 2701721110 | - | - | X |
| - | - | 200711 | 402408386 | 2701721110 | - | - | - |
| UN | 24 | 200711 | 402408386 | 2701721110 | - | - | X |
| - | - | 200712 | 402408386 | 2701721110 | - | - | - |
| UN | 24 | 200712 | 402408386 | 2701721110 | - | - | X |

| | | | | | | | |
|----|----|--------|-----------|------------|---|---|---|
| - | - | 200801 | 402408386 | 2701721110 | - | - | - |
| UN | 24 | 200801 | 402408386 | 2701721110 | - | - | X |
| - | - | 200802 | 402408386 | 2701721110 | - | - | - |
| UN | 24 | 200802 | 402408386 | 2701721110 | - | - | X |

(b) — Prior period correction — reversals of data previously reported (separate reversal rows for each report month), corrected data across entire date range plus 1 month with only split being the price change on 1/12/07

| REGOR D-TYPE | ICP | START DATE | END DATE | PRICE CATEGORY CODE | UNIT OF MEASURE | UNIT QUANTITY | METER READ STATUS | POC | NETWORK PARTICIPANT IDENTIFIER | SPARE | PRICE COMPONENT CODE | DELIVERY PRICE | FIXED/VARIABLE | CHARGEABLE DAYS | NETWORK CHARGE |
|--------------|---------------|------------|------------|---------------------|-----------------|---------------|-------------------|---------|--------------------------------|-------|----------------------|----------------|----------------|-----------------|----------------|
| DET | 00000009997B3 | 01/10/2007 | 31/10/2007 | . | . | . | RV | GFD0334 | UNET | . | G400 | 0.125 | F | -31 | -3.88 |
| DET | 00000009997B3 | 01/10/2007 | 31/10/2007 | . | kWh | -689 | RV | GFD0334 | UNET | . | G40024UC | 0.0736 | V | . | -50.71 |
| DET | 00000009997B3 | 01/11/2007 | 30/11/2007 | . | . | . | RV | GFD0334 | UNET | . | G400 | 0.125 | F | -30 | -3.75 |
| DET | 00000009997B3 | 01/11/2007 | 30/11/2007 | . | kWh | -540 | RV | GFD0334 | UNET | . | G40024UC | 0.0736 | V | . | -39.74 |
| DET | 00000009997B3 | 01/12/2007 | 31/12/2007 | . | . | . | RV | GFD0334 | UNET | . | G400 | 0.15 | F | -31 | -4.65 |
| DET | 00000009997B3 | 01/12/2007 | 31/12/2007 | . | kWh | -299 | RV | GFD0334 | UNET | . | G40024UC | 0.0804 | V | . | -24.04 |
| DET | 00000009997B3 | 01/01/2008 | 31/01/2008 | . | . | . | RV | GFD0334 | UNET | . | G400 | 0.15 | F | -31 | -4.65 |
| DET | 00000009997B3 | 01/01/2008 | 31/01/2008 | . | kWh | -498 | RV | GFD0334 | UNET | . | G40024UC | 0.0804 | V | . | -40.04 |
| DET | 00000009997B3 | 01/02/2008 | 29/02/2008 | . | . | . | RV | GFD0334 | UNET | . | G400 | 0.15 | F | -29 | -4.35 |
| DET | 00000009997B3 | 01/02/2008 | 29/02/2008 | . | kWh | -242 | RV | GFD0334 | UNET | . | G40024UC | 0.0804 | V | . | -19.46 |
| DET | 00000009997B3 | 01/10/2007 | 30/11/2007 | . | . | . | RD | GFD0334 | UNET | . | G400 | 0.15 | F | 61 | 9.15 |
| DET | 00000009997B3 | 01/10/2007 | 30/11/2007 | . | kWh | 73740 | RD | GFD0334 | UNET | . | G40024UC | 0.0736 | V | . | 5427.26 |
| DET | 00000009997B3 | 01/12/2007 | 31/03/2008 | . | . | . | RD | GFD0334 | UNET | . | G400 | 0.15 | F | 122 | 18.3 |
| DET | 00000009997B3 | 01/12/2007 | 31/03/2008 | . | kWh | 88680 | RD | GFD0334 | UNET | . | G40024UC | 0.0804 | V | . | 7129.87 |

| REGISTER CONTENT CODE | PERIOD OF AVAILABI LITY | REPORT MONTH | CUSTOMER NO | CONSUMER NO | INVOICE DATE | INVOICE NO | ENERGY FLOW DIRECTION |
|-----------------------------|----------------------------------|-----------------|----------------|----------------|-----------------|---------------|-----------------------------|
| - | - | 200803 | 402408386 | 2701721110 | | | |
| UN | 24 | 200803 | 402408386 | 2701721110 | | | X |
| - | - | 200803 | 402408386 | 2701721110 | - | - | - |
| UN | 24 | 200803 | 402408386 | 2701721110 | - | - | X |
| - | - | 200803 | 402408386 | 2701721110 | - | - | - |
| UN | 24 | 200803 | 402408386 | 2701721110 | - | - | X |
| - | - | 200803 | 402408386 | 2701721110 | - | - | - |
| UN | 24 | 200803 | 402408386 | 2701721110 | - | - | X |
| - | - | 200802 | 402408386 | 2701721110 | - | - | - |
| UN | 24 | 200802 | 402408386 | 2701721110 | - | - | X |
| - | - | 200803 | 402408386 | 2701721110 | | | |
| UN | 24 | 200803 | 402408386 | 2701721110 | | | X |
| - | - | 200803 | 402408386 | 2701721110 | | | |
| UN | 24 | 200803 | 402408386 | 2701721110 | | | X |

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Electricity Information Exchange Protocols (EIEP)

EIEP2: Aggregated billing and volume
information
Regulated

Effective from 1 ~~October 2019~~ [April 2021](#)



Version control

| Version | Date amended | EIEP Ref | Comments |
|----------------------|---|-----------------------|---|
| 10 | 11 November 2013 1 May 2014 30 May 2014 | EIEP2 | Amendments from March 2013 consultation Template reformatted Approved and publicised by the Authority |
| 10.1 draft | 30 June 2017 | EIEP2 | Amendments include: Terminology alignment with ENA pricing guidelines and preferences agreed with ENA Improvements to add clarity and consistency to content |
| 11 | 2 October 2018 | EIEP2 | Amendments include: Improvements to add further clarity and consistency following submissions received in response to the 4 August 2017 consultation paper and the Authority's responses and decisions set out in the decision paper. Requirements for New Zealand Daylight Time adjustment techniques, consistent with the corresponding changes made to EIEPs 1 and 3. Change 'Price category code' field to 'Price description', and amend the validation rule, consistent with the changes to EIEP1 Amend file types for distributor to trader files Amend the 'Unit or measure' table, consistent with the changes to EIEP1 |
| 11.1 | 28 January 2020 | EIEP2 | Amendments include: Changes to ICP classification, replacement of NHH ICP with MM ICP (mass market ICP), and definitions for MM ICP and HHR ICP Mandating EIEP1 replacement RM Consistency with EIEP1 |

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1 EIEP2: Aggregated billing and volume information

| | |
|------------------------|--|
| Title: | EIEP2: Aggregated billing and volume information |
| Version: | 11.1 |
| Application: | This protocol allows: <ol style="list-style-type: none"> a) traders to provide aggregated EIEP1 billing and volume information to distributors b) distributors to provide aggregated billing and volume information to traders that supports the distributor's invoice and enables reconciliation of the distributor's network charges covered by the file |
| Participants: | Trader/Distributor |
| Code reference: | Clause 12A.14 |
| Dependencies: | The use of system agreement (UoSA) between the distributor and the trader may also set out the distributor's billing policies and processes and requirements relating to the information that must be provided in this file. |

Description of when this protocol applies

[For the purposes of EIEPs 1, 2 and 3:](#)

- a) [a MM ICP \(mass market ICP\) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half-hour metering information \(or has specified time-blocked periods\) for the application of delivery prices](#)
- b) [a HHR ICP \(half hour ICP\) means an ICP that is not a MM ICP.](#)

[This protocol is particularly useful for distributors that calculate network charges based only on aggregate categories of ICPs.](#)

[If required by the distributor, traders must provide an EIEP2 file to enable billing of network charges for aggregated categories of ICPs, or to support buyer created invoices.](#)

[If the distributor uses data from EIEP2 files for billing of network charges for aggregated categories of ICPs, it must provide an EIEP2 file to traders to support its invoice for network charges and to enable traders to reconcile the network charges at aggregated level.](#)

[Where chargeable quantities derived from reconciled volumes are used for billing of variable network charges \(e.g. where the distributor has GXP peak demand and/or GXP volume pricing\), the distributor must provide an EIEP2 file to support its invoice for the variable network charges. A data file formatted in accordance with EIEP2 is to be forwarded:](#)

- ~~by the trader to the distributor to provide billing information that enables the calculation of network charges for aggregated categories of ICPs; and~~
- ~~by the distributor to the trader to support the distributor's invoice for fixed and/or variable network charges for aggregated categories of ICPs.~~

~~Unless a distributor has requested otherwise, and the trader agrees, EIEP2 must be used where a distributor has specified time blocked periods for the application of delivery prices.~~

~~This protocol is particularly useful for distributors that calculate network charges based only on aggregate fixed and/or variable data provided by the trader or reconciliation manager.~~

~~Where chargeable quantities derived from reconciled volumes are used for billing of variable network charges (e.g. where the distributor has GXP peak demand and/or GXP volume based pricing), the parties may agree that the distributor will provide an EIEP2 file for the variable network charges and an EIEP1 file for the fixed network charges.~~

Business requirements

Business requirements

1. The distributor and each trader must agree on the file transport mechanism by which the trader or distributor will provide information and the destination address. Non-manual interfaces use electronic file transfer either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. In the case of FTP a security mechanism must be used to protect confidentiality. Whatever method is agreed that method must be in a format approved and published by the Authority. [The electronic file transport mechanism commonly used for EIEP files is the registry EIEP transfer hub \(via the registry EIEP SFTP server\).](#)
2. Where information is to be transferred using email, the contents must be delivered in a secure manner and password protected.
- ~~3.~~ [Unless otherwise agreed between the parties, a trader must deliver any EIEP2 file containing billing information for the previous month to the distributor by 1700 hours on the 5th business day \(business day as defined in the Code\) of the current month.](#)
- ~~3.4.~~ [Unless otherwise agreed with the distributor, traders must deliver EIEP2 'replacement RM normalised' revision month files to distributors by 1700 hours on the 5th business day of the month following the month in which the revised submission information for the corresponding reconciliation revision month was delivered to the reconciliation manager. As revised submission information is provided to the reconciliation manager on the 13th business day, traders may provide EIEP2 revision month files to the distributor any day between the 13th business day and 5th business day of the following month.](#)
- ~~4.5.~~ [An agent may provide data on behalf of the relevant reconciliation participant, in which case the header for EIEP2 will identify the reconciliation participant. The appointment of an agent must be a permission function of the responsible reconciliation participant and receiving participants must allow for agents in their systems.](#)
- ~~5.6.~~ [A trader or distributor must only use codes that are:](#)
 - (a) stipulated in this document; or
 - (b) approved and published by the Electricity Authority ('Authority'); or
 - (c) determined in the registry and reconciliation functional specifications; or
 - (d) in the case of price category codes or price component codes, these must be those in the distributor's published delivery price schedule.
- ~~6.7.~~ [Information relating to individual price component codes must be formatted on separate lines.](#)
- ~~7.8.~~ [Information provided in the file must be consistent with the terminology used in the Glossary of Standard Terms published by the Authority.](#)
- ~~8.9.~~ [The file must contain all mandatory information, failure to provide the required information will result in the file being deemed as incomplete.](#)
- ~~9.10.~~ [Information is to be provided in accordance with the following status codes unless otherwise specified:](#)
 - O Optional
 - M Mandatory
 - C Conditional - Mandatory if available, otherwise Null (also refer to validation rules)
- ~~10.11.~~ [To assist in understanding where these apply when files can be communicated both ways between participants, the relevant status code is given in the assigned column either Trader to Distributor or Distributor to Trader.](#)
- ~~11.12.~~ [If both EIEP1 and EIEP2 files are provided for ICP priced networks, the sum of the EIEP1 quantities by price component code must match the corresponding aggregate total quantities by price component code in the EIEP2 file for same report month.](#)
- ~~12.13.~~ [Injection and extraction is to be shown with the energy flow direction indicator, where "X" \(extraction/volume consumed\) together with a positive unit quantity represents electricity leaving the network, and "I" \(injection as a result of generation\) together with a positive unit quantity represents](#)

Business requirements

electricity entering the network (e.g. from embedded generation).

- ~~13-14.~~ Delivery price schedules should have different price component codes for extraction and injection delivery prices, notwithstanding [that](#) the delivery price for injection may be \$0.00/kWh. If this is not the case, the extraction and injection volumes must be represented as separate records in the file, and must not be netted off against each other or be summated as this would result in incorrect interpretation of the data
- ~~14-15.~~ The data in an EIEP2 file must cover a complete calendar month, unless the sender makes it clear that a different period applies.
- ~~15-16.~~ The 'report month' provided in the report detail section must be the same as the 'report month' used in the header.
- ~~16-17.~~ If the trader or distributor becomes aware of a format error or the file is incomplete, that party must advise the other party as soon as practicable after becoming aware of the issue.
- ~~17-18.~~ If no agreement can be reached as to whether the file is to be a partial or full replacement for the correction of the error as noted above, then a full replacement file is required.
- ~~19.~~ Recipients of EIEP2 files ~~should~~ **must** be prepared to receive 'I' (initial) ~~and~~ 'R' (complete replacement) ~~and 'X' (partial replacement)~~ files. The first file for the report month should have file status I (initial). Subsequent files ~~must be~~ **should either be** R (full replacement) ~~or X (partial replacement)~~ files. On receiving an R file, the recipient must remove all previous data for that report month and replace it with the data from the new file.
- ~~18-20.~~ [Traders must report the distributor's price component code and delivery price in the EIEP2 files regardless of what they invoice the customer, except where a delivery price is unbillable at the time of customer billing and forces repackaging \(e.g. where the chargeable peak period\(s\) required to bill a coincident peak demand charge is\(are\) unknown at the time of customer billing\) in which case the trader may determine and report its own price code and repackaged price.](#)
- ~~19-21.~~ Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the "trading period run on technique" which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.

General requirements

1. If there are any conflicts between this document and the Code, the Code will take precedence.
2. In general, all participants must provide the recipient with:
 - (a) accurate information for all points of connection at which they are responsible for the current report period
 - (b) when available, revised information for all points of connection at which they have purchased or sold electricity during any previous report period
 - (c) any additional information requested in respect of any report period.
3. A number of data transfers are required between participants in order for the EIEP process to take place. Unless the relevant participants have agreed not to use the EIEP, these data transfers must be those required by the EIEP. At all times data transfers must take place in a secure and predictable manner.
4. It is the responsibility of participants to meet the principles of the Privacy Act when exchanging

| General requirements |
|-----------------------|
| customer information. |

| Data inputs |
|---|
| Information from a participant's billing system and/or reconciliation submission files. |

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | Distributor to Trader: Mandatory/ Optional/ Conditional | Validation rules |
|---|----------------|---|---|--|
| <i>Header record type</i> | Char 3 | M | M | HDR – indicates the row is a header record type |
| <i>File type</i> | Char 7 | M | M | To identify the types of information the files contain (see file specifications below) For Trader to Distributor files: If summary of EIEP1 ICPHHAB - SUMHHAB If summary of EIEP1 ICPMMRM - SUMMMRM For Distributor to Trader files: If summary of EIEP1 ICPHHR – SUMHHR If summary of EIEP1 ICPMM – SUMMM If summary of EIEP1 ICPALL – SUMALL If billing file is for chargeable quantities derived from reconciled volumes - SUMRECN |
| <i>Version of EIEP</i> | Num 3.1 | M | M | Version of EIEP protocol that is being used for this file. |
| <i>Sender</i> | Char 20 | M | M | Name of sending party. Participant identifier to be used if the sender is a participant. E.g. POCO where Powerco as a participant, is the sender, and/or NGConsulting where as an agent, NGConsulting is the sender on behalf of a participant. |
| <i>Sent on behalf of participant identifier</i> | Char 4 | M | M | Participant identifier of party on whose behalf data is provided. |
| <i>Recipient participant identifier</i> | Char 4 | M | M | Valid recipient participant identifier |
| <i>Report run date</i> | DD/MM/YY YY | M | M | Date the report is run |
| <i>Report run time</i> | HH:MM:SS | M | M | Time the report is run |
| <i>Unique file identifier</i> | Char 15 | M | M | Number that uniquely identifies the file |

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | Distributor to Trader: Mandatory/ Optional/ Conditional | Validation rules |
|---------------------------------|----------------|---|---|--|
| <i>Number of detail records</i> | Num 8 | M | M | Total number of DET records in report |
| <i>Report period start date</i> | DD/MM/YY YY | M | M | Report run start date (inclusive) |
| <i>Report period end date</i> | DD/MM/YY YY | M | M | Report run end date (inclusive) |
| <i>Report month</i> | YYYYMM | M | M | The month the report is run for. |
| <i>Utility type</i> | Char 1 | M | M | Type of energy supply: G = Gas; or E = Electricity |
| <i>File status</i> | Char 1 | M | M | I = Initial or R = Replacement or X = Replace only those ICPs contained in this replacement file |

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | Distributor to Trader: Mandatory/ Optional/ Conditional | Validation rules |
|---|----------|---|---|--|
| <i>Detail record type</i> | Char 3 | M | M | DET – indicates the row is a detail record. |
| <i>Region</i> | Char 20 | M | M | Name of POC or region (group of POCs). Use “ALL” when information represents a total for the price component code. |
| <i>Distributor participant identifier</i> | Char 4 | M | M | Valid code of the network participant |
| <i>Price description</i> | Char 75 | O | O | Null unless required to further describe the price code. |
| <i>Price component code</i> | Char 25 | M | M | Price component code ¹ as per the distributor’s published delivery price schedule |
| <i>Delivery price</i> | Num 12.6 | M | M | Fixed or variable delivery price ² as per the distributor’s published delivery price schedule. The delivery price is to be expressed in \$ excl GST and net of prompt payment discount. |

¹ Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

² Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | Distributor to Trader: Mandatory/ Optional/ Conditional | Validation rules |
|--|----------------|--|--|---|
| <i>Fixed/Variable</i> | Char 1 | M | M | F (Fixed) or V (Variable) |
| <i>ICP Count</i> | Int 6 | M | C | Count of ICPs in category (not required for SUMRECN files) |
| <i>Chargeable days</i> | Int <u>7</u> | M | C | Sum of chargeable days between Start date and End date (both dates inclusive) for all ICPs represented in the record (not required for SUMRECN files) |
| <i>Energy flow direction</i> | Char 1 | M | M | An identifier of whether the channel records the import (injection from the ICP into the network) ("I"), or the export (extraction from the network to the ICP) ("X"). Refer to business rules in relation to same price component code options for both X and I. |
| <i>Peak charge date</i> | DD/MM/YY YY | C | C | Where relevant, indicates the date that the load for the peak charge is taken from. |
| <i>Peak charge trading period</i> | Int 2 | C | C | Where relevant, indicates the trading period (of the date above) that the load for the peak charge is taken from. |
| <i>Unit of measure</i> | Char 25 | M | M | The type of unit applicable to the value in the 'Unit quantity' field, as per the distributor's published delivery price schedule ³ (examples are in table 3) |
| <i>Unit quantity</i> | Num12.2 | M | M | Total unit quantity as appropriate to the 'Unit of measure' field |
| <i>Network charge</i> | Num 11.2 | C | M | The total network charge (in \$ excluding GST and net of any prompt payment discount) Mandatory where the information supports an invoice. |
| <i>Report month</i> | YYYYMM | M | M | The month the report is run for, must match the month given in the header for 'Report Month'. |
| <i>Invoice or invoice reference number</i> | Char 20 | O | M | Populate with actual invoice number or a reference number which is quoted on the invoice to the trader. |

Protocol specifications

1. The information is to be provided as a comma delimited text file. Commas are therefore prohibited

³ Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

Protocol specifications

within fields.

2. Each formatted file will consist of one or more records, with each record being a single line of text as defined in the business rules. Records are to be delimited with one of the following:
 - (a) a carriage return character and a line feed character combination (ASCII characters 13 and 10) commonly used in Windows based programs, or
 - (b) a line feed character (ASCII character 10) commonly used in Unix based programs, or
 - (c) a carriage return character (ASCII character 13) commonly used in Mac based programs.
3. Data fields within files are defined using the attributes in the table following these specifications.
4. Matching of file names, code list values, etc, are to be case insensitive.
5. Each data file will contain only one header, but may contain any number of detail records.
6. The first record of a file contains 'Header' information followed by one or more detail lines.
7. Each file created will have a file name as outlined below and must have names that are unique within any month.

Sender + Utility Type (only "E" to be used) + Recipient + File Type + Report Month + Report Run Date + UniqueID# (e.g. hhmm run time, or ICP but limited to Char (60)) with an extension of .TXT and with the components concatenated using the underscore character, to assist readability.

e.g. TRUS_E_UNET_SUMMABSUMMMRM_201910007_201911000802_UniqueID.TXT
 [Char4_Char1_Char4_ Char7_yyyymm_yyyymmdd_Char60.TXT]

8. The format provides for ~~a number of different~~ several EIEP2 file types supporting ~~either of~~ the following:
 - (a) For trader to distributor files, a summary total of an EIEP1 file (with matching total days, kWh, and dollars by region by price component code) where the file type corresponds to a total of the file types defined in EIEP1 as follows:
 - (i) SUMHHAB – used for summary of EIEP1 ICPHHAB file
 - (ii) SUMMMRM – used for summary of EIEP1 ICPMMRM file
 - (b) For distributor to trader files, file types as follows:
 - (i) SUMHHR – used for summary of EIEP1 ICPHHR
 - (ii) SUMMM – used for summary of EIEP1 ICPMM
 - (iii) SUMALL – used for summary of EIEP1 ICPALL
 - (iv) SUMRECN – used where the billing file is for chargeable quantities derived from reconciled volumes, e.g. GXP peak demand and/or GXP volume pricing

~~(a)–~~

- ~~• SUMMMAB provides summary totals for an EIEP1 ICPMMAB file~~
- ~~• SUMHHAB provides summary totals for an EIEP1 ICPHHAB file~~
- ~~• SUMMMNM provides summary totals for an EIEP1 ICPMMNM file~~
- ~~• SUMMMRM provides summary totals for an EIEP1 ICPMMRM file~~
- ~~• SUMMMSP provides summary totals for an EIEP1 ICPMMSP file~~

~~(b) For distributor to trader files, the following file types:~~

- ~~• SUMHHR if split billing file for HHR ICPs~~
- ~~• SUMNHH if split billing file for HHR ICPs~~
- ~~• SUMALL if single billing file for both HHR and NHH ICPs~~
- ~~• SUMRECN if the billing file is for chargeable quantities derived from reconciled volumes, used where the distributor has GXP peak demand and/or GXP volume based pricing~~

Data outputs

Completed file for transmission.

2 Table of codes used in EIEP2

2.1 Table 1 List of attributes to define data fields used in EIEP2

| Logical format | Data type | Rules | Example |
|----------------|-----------|--|--|
| INT (n) | Integer | ASCII representation of an integer number (ie no decimals), no leading zeros, no spaces, a leading "-" if negative (no sign if positive), with 1 to n digits. Numbers only: ASCII characters 48 to 57, and 45 where applicable. | INT (4) 12 -1234 |
| NUM (n.d) | Decimal | ASCII representation of a decimal number (ie a rational number), no spaces, a leading "-" if negative (no sign if positive), with up n digits including up to (n minus d) digits to the left of the decimal place, and up to d digits to the right of the decimal place. | NUM (6.2) 123.45 1234.0 -12.32 |
| | | For integers, the decimal point is not required. A decimal point on its own must not be used to represent zero (use "0") Trailing zeros are optional. No leading zeros other than when the number starts with "0." Numbers only: ASCII characters 48 to 57, and 45/46 where applicable. | NUM (6.3) -0.123 23.987 987.000 8 |
| CHAR (n) | Text | Up to n characters (ASCII characters 32 to 43 and 45 to 126 only). As commas (ASCII character 44) are used as field separators, they must not be used within the field data (it is recommended that any commas found in source data be changed to a semi-colon (ASCII character 59) when files are created). Fields must not contain any leading or trailing spaces. | The quick brown fox |
| DATE | Date | ASCII format with: Year represented as: — YYYY for century and year Month represented as: — MM to display leading zero Day represented as — DD to display leading zero ASCII format for any separators used | YYYYMMDD e.g. 20050216 DD/MM/YYYY e.g. 16/02/2005 |
| TIME | Time | ASCII in 24 hour format Hour represented as HH with leading zeros Minutes represented as MM with leading zeros Seconds represented as SS with leading zeros ASCII format for any separators used Note: both NZST and NZDT will be used and will be indicated as necessary | HH:MM:SS e.g. 13:15:01 HH:MM e.g. 13:15 |
| DATETIME | Date/Time | ASCII format with same rules as both Date and Time Data Types | YYYYMMDDHHMMSS e.g. 20050216131501 |

| Logical format | Data type | Rules | Example |
|----------------|-----------|------------------------|---------|
| NULL | Null | Field contains no data | |

2.2 Table 2 ASCII character set for use within fields of EIEP2

| Character | ASCII | Character | ASCII | Character | ASCII |
|-----------|-------|-----------|-------|-----------|-------|
| 32 | Space | 64 | @ | 97 | a |
| 33 | ! | 65 | A | 98 | b |
| 34 | " | 66 | B | 99 | c |
| 35 | # | 67 | C | 100 | d |
| 36 | \$ | 68 | D | 101 | e |
| 37 | % | 69 | E | 102 | f |
| 38 | & | 70 | F | 103 | g |
| 39 | ' | 71 | G | 104 | h |
| 40 | (| 72 | H | 105 | i |
| 41 |) | 73 | I | 106 | j |
| 42 | * | 74 | J | 107 | k |
| 43 | + | 75 | K | 108 | l |
| | | 76 | L | 109 | m |
| 45 | - | 77 | M | 110 | n |
| | | 78 | N | 111 | o |
| 46 | . | 79 | O | 112 | p |
| 47 | / | 80 | P | 113 | q |
| 48 | 0 | 81 | Q | 114 | r |
| 49 | 1 | 82 | R | 115 | s |
| 50 | 2 | 83 | S | 116 | t |
| 51 | 3 | 84 | T | 117 | u |
| 52 | 4 | 85 | U | 118 | v |
| 53 | 5 | 86 | V | 119 | w |
| 54 | 6 | 87 | W | 120 | x |
| 55 | 7 | 88 | X | 121 | y |
| 56 | 8 | 89 | Y | 122 | z |
| 57 | 9 | 90 | Z | 123 | { |
| 58 | : | 91 | [| 124 | |
| 59 | ; | 92 | \ | 125 | } |
| 60 | < | 93 |] | 126 | ~ |
| 61 | = | 94 | ^ | | |
| 62 | > | 95 | _ | | |
| 63 | ? | 96 | ` | | |

2.3 Table 3 Unit of measure table

| Unit | Description |
|------|---|
| kWh | kilowatt hour energy (real energy) |
| kW | kilowatt demand (real power), or capacity |
| kVAh | kilovolt ampere hour energy (apparent energy) |
| kVA | kilovolt ampere demand (apparent power), or capacity rating |

| Unit | Description |
|--|---|
| kVArh | kilovolt ampere reactive hour energy (reactive energy) |
| kVAr | kilovolt ampere reactive demand (reactive power) |
| kVA-km | kilovolt ampere capacity multiplied by kilometres |
| Con or ICP | used for per connection or per ICP per day delivery prices |
| Equipment | typically used for specific dedicated equipment (e.g. transformers) |
| Fixture | typically used for per fixture delivery prices associated with streetlighting |
| <p>Note: This list is not exhaustive, alternative units of measure and descriptions may be used if contained in the distributor's delivery price schedule.</p> | |

Electricity Information Exchange Protocols (EIEP)

EIEP3: Half hour metering information Regulated

Effective from ~~4 October 2019~~ [1 April 2021](#)



Version control

| Version | Date amended | EIEP Ref | Comments |
|----------------------|---|-----------------------|--|
| 10 | 11 November 2013 1 May 2014 30 May 2014 | EIEP3 | Amendments from March 2013 consultation Template reformatted Approved and publicised by the Authority |
| 10.1 draft | 30 June 2017 | EIEP3 | Amendments include: Terminology alignment with ENA pricing guidelines and preferences agreed with ENA Improvements to add clarity and consistency to content |
| 11 | 2 October 2018 | EIEP3 | Improvements to add further clarity and consistency following submissions received in response to the 4 August 2017 consultation paper and the Authority's responses and decisions set out in the decision paper. Requirements for New Zealand Daylight Time adjustment techniques, consistent with the corresponding changes made to EIEPs 1 and 2. New business requirement 24 to specify that the combination of ICP, Data Stream ID, Date, Period, Flow direction, and Data stream type (in the few situations where this is used), must be unique within a file Business requirement 3 and 23 subject to business requirement 18 |
| 11.1 | 28 January 2020 | EIEP2 | Amendments include: Changes to ICP classification, replacement of NHH ICP with MM ICP (mass market ICP), and definitions for MM ICP and HHR ICP Consistency with EIEP1 |

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| 1 | EIEP3: Half hour metering information | 3 |
| 2 | Table of codes used in EIEP3 | 8 |

1 EIEP3: Half hour metering information

| | |
|------------------------|---|
| Title: | EIEP3: Half hour metering information |
| Version: | 1.1 |
| Application: | <p>This protocol allows</p> <p>a) traders to provide half hour metering information to distributors at an ICP level to enable distributors to invoice traders for fixed and variable network charges associated with ICPs where half hour metering information is required, to meet the distributor's network planning, pricing design, and regulatory information disclosure requirements, and provide information to the extended reserve manager.</p> <p>b) embedded network owners to provide half hour metering information to the parent network owner for LE ICPs.</p> |
| Participants: | Trader/Distributor |
| Code reference: | Clause 12A.14 |
| Dependencies: | The use of system agreement (UoSA) between the distributor and the trader may also set out the distributor's billing policies and processes and requirements relating to the information that must be provided in this file. |

| |
|--|
| Description of when this protocol applies |
| <p>For the purposes of EIEPs 1, 2 and 3:</p> <p>a) a MM ICP (mass market ICP) means an ICP where the highest metering category is 2, or the metering category is 9, or there is no metering installation, and for which the distributor's price category does not require half-hour metering information (or has specified time-blocked periods) for the application of delivery prices</p> <p>b) a HHR ICP (half hour ICP) means an ICP that is not a MM ICP.</p> <p>A data file formatted in accordance with EIEP3 is to be forwarded by the trader to the distributor to provide half hour metering information that enables the calculation of network charges for individual ICPs, meet the distributor's network planning, pricing design, and regulatory information disclosure requirements, and provide information to the extended reserve manager.</p> <p>The information contained in an EIEP3 format file must be metered half hour data by ICP where the meter channel records real energy volume (in kWh) together with either or both reactive energy volume (in kVAh) or apparent energy volume (in kVAh).</p> <p>This protocol can accommodate multiple ICPs in a single file or an individual file per ICP.</p> <p>An EIEP3 file is generally not required where an EIEP1 file can provide the information required for billing of network charges.</p> |
| Business requirements |
| <p>1. The distributor and each trader must agree on the file transport mechanism by which the trader or distributor will provide information and the destination address. Non-manual interfaces use electronic file transfer- either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. In the case of FTP a security mechanism must be used to protect confidentiality. Whatever method is agreed that method must be in a format approved and published by the Authority. The electronic file transport mechanism commonly used for EIEP files is the registry EIEP transfer hub</p> |

Business requirements

[\(via the registry EIEP SFTP server\).](#)

2. Where information is required to be transferred using email, the contents must be delivered in a secure manner and password protected.
3. Subject to business requirement 18, and unless otherwise agreed between parties, an EIEP3 file containing half hour metering information for the previous period must be delivered by 1700 hours on the 5th business day (business day as defined in the Code) of the current month.
4. An agent may provide data on behalf of the relevant reconciliation participant, in which case the header for EIEP3 will identify the reconciliation participant. The appointment of an agent must be a permission function of the responsible reconciliation participant and receiving participants must allow for agents in their systems.
5. A trader or distributor must only use codes that are:
 - (a) stipulated in this document; or
 - (b) approved and published by the Electricity Authority; or
 - (c) determined in the registry and reconciliation functional specifications; or
6. Information provided in the file will be consistent with the terminology used in the Glossary of Standard Terms published by the Authority.
7. The file must contain all mandatory information, failure to provide the required information will result in the file being deemed as incomplete.
8. Information is to be provided in accordance with the following status codes unless otherwise specified:
 - O Optional
 - M Mandatory
 - C Conditional - Mandatory if available, otherwise Null (also refer to validation rules)
9. To assist in understanding where these apply when files can be communicated both ways between participants, the relevant status code is given in the assigned column either Trader to Distributor or Distributor to Trader
10. Data must be provided for the previous period of consumption, which also aligns with the reconciliation trading periods.
11. The data in an EIEP3 file will normally cover a complete calendar month, unless the sender makes it clear that a shorter period applies and cannot cover more than one calendar month or span two calendar months.
12. The trading period is the half hour ending based on New Zealand Daylight Savings time, giving 48 trading periods in the day, with the exception of the winter/summer and summer/winter transition days where there are 46 and 50 (respectively) trading periods in the day.
13. If an ICP has multiple meter channels which differ from the standard configuration, the report must be compiled to provide a single kWh measurement together with either a kVArh or kVAh measurement for each trading period. Any additional channels for which data is collected must be reported as additional records in the same file. These additional records should be identified by using the 'data stream identifier', 'data stream type' and 'energy flow direction' fields.
14. If it is agreed between the parties, multiple channels containing the same type of information (e.g. two kWh channels) may be summated. This may remove the requirement for additional files or records.
15. Injection and extraction is to be shown with the 'energy flow direction' indicator, where X (extraction) together with a positive 'unit quantity' represents electricity leaving the network, and I (injection) together with a positive 'unit quantity' represents electricity entering the network (e.g. as a result of embedded generation). Extraction and injection volumes, even where on the same network price component code, are not to be netted off against each other, and must instead be represented with separate records in the file.
16. If one of the optional channels (kVArh or kVAh) is not being reported then the field should be included in the file for completeness but the contents of the field must contain a Null (not a zero).

Business requirements

17. Although this file format is intended to provide active and reactive energy, if the reactive energy measurement is not available (e.g. where it is not applicable) then Nulls must be provided in the reactive energy (kVARh) and apparent energy (kVAh) fields.
18. If the trader or distributor becomes aware of a format error in a transmitted file, or the file is incomplete, that party must advise the other party as soon as practicable after becoming aware of the issue. Where metering equipment failure or communications issues prevents validated data for all ICPs being provided to the distributor by 1700 hours on the 5th business day, it must provide the distributor with validated data for the missing ICPs as soon as possible after the 5th business day.
19. If no agreement can be reached as to whether the file is to be a partial or full replacement for the correction of the error as above, then a full replacement file is required.
20. Recipients of EIEP3 files must be capable of receiving I (initial), R (complete replacement) and X (partial replacement) files.
21. The first file for the report month should have file status I (initial). Subsequent files should either be R (full replacement) or X (partial replacement). On receiving an R file, the recipient should remove all previous data for that report month and replace it with the data from the new file. Individual ICPs can be replaced by using an X file status, in which case just those ICPs should be removed and replaced. X files can contain replacement data for ICPs included in the initial I file or data for ICPs that were not included in the Initial file.
22. If it is known that the meter reading is taken at the end of the report month, then the 'reading type' F (final) must be used and the data is final.
23. Subject to business requirement 18, the report is to include all ICPs (or each single ICP) with a registry status of Active against the trader during part or all of the report month.
24. To address a situation where a trader is providing two different sets of data (from separate meters) and receiving systems cannot distinguish between the two, the combination of ICP, Data Stream ID, Date, Period, Flow direction, and Data stream type (in the few situations where this is used), must be unique within a file.
25. Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the "trading period run on technique" which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.

General requirements

1. If there are any conflicts between this document and the Code, the Code will take precedence.
2. In general, all participants must provide the recipient with:
 - (a) accurate information for all points of connection at which they are responsible for the current consumption period
 - (b) when available, revised information for all points of connection at which they have purchased or sold electricity during any previous consumption period
 - (c) any additional information requested in respect of any consumption period.
3. A number of data transfers are required between participants for the EIEP process to take place. Unless the relevant participants have previously agreed otherwise, these data flows must be those required by the Code. At all times data transfers must take place in a secure and predictable manner.
4. It is the responsibility of participants to meet the principles of the Privacy Act when exchanging customer information.

| Data inputs |
|--|
| Information from a participant's billing system and/or reconciliation submission file. |

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | | Validation rules |
|---|----------------|---|--|--|
| <i>Header record type</i> | Char 3 | M | | HDR – indicates the row is a header record type |
| <i>File type</i> | Char 7 | M | | ICPHH – indicates data file is of type ICPHHR |
| <i>Version of EIEP</i> | Num 3.1 | M | | Version of EIEP protocol that is being used for this file. |
| <i>Sender</i> | Char 20 | M | | Name of sending party. Participant identifier to be used if the sender is a participant. <u>E.g. POCO where Powerco as a participant is the sender, or NGConsulting where as an agent NGConsulting is the sender on behalf of a participant.</u> |
| <i>Sent on behalf of</i> | Char 4 | M | | Participant identifier of party on whose behalf consumption data is provided. |
| <i>Recipient Participant identifier</i> | Char 4 | M | | Valid recipient participant identifier |
| <i>Report run date</i> | DD/MM/YY YY | M | | Date the report is run |
| <i>Report run time</i> | HH:MM:SS | M | | Time the report is run |
| <i>Unique file identifier</i> | Char 15 | M | | Number that uniquely identifies the file. |
| <i>Number of detail records</i> | Num 8 | M | | Total number of DET records in report |
| <i>Report month</i> | YYYYMM | M | | The month the report is run for. |
| <i>Utility type</i> | Char 1 | M | | Type of energy supply; G = Gas; or E = Electricity |
| <i>File status</i> | Char 1 | M | | I = Initial or R = Replacement or X = Replace only those ICPs contained in this replacement file |

| Event data | Format | Trader to Distributor: Mandatory/ Optional/ Conditional | | Validation rules |
|-------------------------------|----------------|---|--|---|
| <i>Detail record type</i> | Char 3 | M | | DET – indicates the row is a detail record. |
| <i>ICP identifier</i> | Char 15 | M | | ICP identifier means a unique identifier for an ICP created by a distributor in accordance with clause 1 of Schedule 11.1 |
| <i>Data stream identifier</i> | Char 18 | M | | Data stream Identifier used by Sender, usually the meter number (e.g. meter number for each different data set under the one ICP) |
| <i>Reading type</i> | Char 2 | M | | Final (F) or Estimate (E) - estimate status indicates that the meter could not be read and the data will be revised. |
| <i>Date</i> | DD/MM/YY YY | M | | Date of measurement. |
| <i>Trading period</i> | Int 2 | M | | Trading period – 1 to 48 (46 or 50 for Daylight Saving). |
| <i>Active energy (kWh)</i> | Num 12.2 | C | | Consumption in kWh. Required unless the data stream represents reactive energy injection and the active energy injection is not measured. |
| <i>Reactive energy (kVAh)</i> | Num 12.2 | C | | Reactive energy in kVAh, Can only be NULL if kVAh is supplied or is not available (recommended that kVAh and kVAh are provided) |
| <i>Apparent energy (kVAh)</i> | Num 12.2 | C | | Apparent energy in kVAh, can only be NULL if kVAh is supplied or is not available |
| <i>Energy flow direction</i> | Char 1 | M | | An identifier of whether the channel records the import (injection from the ICP into the network) ("I"), or the export (extraction from the network to the ICP) ("X") |
| <i>Data stream type</i> | Char 10 | C | | Null implies standard billable volume else defined by receiver |

Protocol specifications

1. The information is to be provided as a comma delimited text file. Commas are therefore prohibited within fields.

| Protocol specifications |
|--|
| <p>2. Each formatted file will consist of one or more records, with each record being a single line of text as defined in the business rules. Records are to be delimited with one of the following:</p> <ul style="list-style-type: none"> (a) a carriage return character and a line feed character combination (ASCII characters 13 and 10) commonly used in Windows based programs, or (b) a line feed character (ASCII character 10) commonly used in Unix based programs, or (c) a carriage return character (ASCII character 13) commonly used in Mac based programs. <p>3. Data fields within files must be defined using the attributes in the table following these specifications.</p> <p>4. Matching of file names, code list values, etc, must to be case insensitive.</p> <p>5. Each data file must contain only one header but can contain any number of detail records.</p> <p>6. The first record of a file must contain 'Header' information followed by one or more detail lines.</p> <p>7. Each file created must have a file name as outlined below and must have names that are unique within any month:</p> <p>Sender + Utility Type + Recipient + File Type + Report Month + Report Run Date + UniqueID# (e.g. hhmm run time, or ICP but limited to Char (60) with an extension of .TXT and with the components concatenated using the underscore character, to assist readability.</p> <p>e.g. TRUS_E_UNET_ICPHH_200007_20000802_1232.TXT [Char4_Char1_Char4_ Char7_yyyymm_yyyymmdd_UniqueID.TXT]</p> |

| Data outputs |
|--------------|
| |

2 Table of codes used in EIEP3

2.1 Table 1 List of attributes to define data fields used in EIEP3

| Logical format | Data type | Rules | Example |
|----------------|-----------|--|---|
| INT (n) | Integer | <p>ASCII representation of an integer number (ie no decimals), no leading zeros, no spaces, a leading "-" if negative (no sign if positive), with 1 to n digits.</p> <p>Numbers only: ASCII characters 48 to 57, and 45 where applicable.</p> | <p>INT (4)</p> <p>12</p> <p>-1234</p> |
| NUM (n.d) | Decimal | <p>ASCII representation of a decimal number (ie a rational number), no spaces, a leading "-" if negative (no sign if positive), with up n digits including up to (n minus d) digits to the left of the decimal place, and up to d digits to the right of the decimal place.</p> <p>For integers, the decimal point is not required.</p> <p>A decimal point on its own must not be used to represent zero (use "0")</p> | <p>NUM (6.2)</p> <p>123.45</p> <p>1234.0</p> <p>-12.32</p> <p>NUM (6.3)</p> <p>-0.123</p> <p>23.987</p> <p>987.000</p> <p>8</p> |

| Logical format | Data type | Rules | Example |
|----------------|-----------|---|---|
| | | <p>Trailing zeros are optional.</p> <p>No leading zeros other than when the number starts with "0."</p> <p>Numbers only: ASCII characters 48 to 57, and 45/46 where applicable.</p> | |
| CHAR (n) | Text | <p>Up to n characters (ASCII characters 32 to 43 and 45 to 126 only).</p> <p>As commas (ASCII character 44) are used as field separators, they must not be used within the field data (it is recommended that any commas found in source data be changed to a semi-colon (ASCII character 59) when files are created.</p> <p>Fields must not contain any leading or trailing spaces.</p> | The quick brown fox |
| DATE | Date | <p>ASCII format with: Year represented as:</p> <ul style="list-style-type: none"> — YYYY for century and year <p>Month represented as:</p> <ul style="list-style-type: none"> — MM to display leading zero <p>Day represented as</p> <ul style="list-style-type: none"> — DD to display leading zero <p>ASCII format for any separators used</p> | <p>YYYYMMDD e.g. 20050216</p> <p>DD/MM/YYYY e.g. 16/02/2005</p> |
| TIME | Time | <p>ASCII in 24 hour format</p> <p>Hour represented as HH with leading zeros</p> <p>Minutes represented as MM with leading zeros</p> <p>Seconds represented as SS with leading zeros</p> <p>ASCII format for any separators used</p> <p>Note: both NZST and NZDT will be used and will be indicated as necessary</p> | <p>HH:MM:SS e.g. 13:15:01 HH:MM e.g. 13:15</p> |
| DATETIME | Date/Time | <p>ASCII format with same rules as both Date and Time Data Types</p> | <p>YYYYMMDDHHMMSS e.g. 20050216131501</p> |
| NULL | Null | Field contains no data | |

2.2 Table 2 ASCII character set for use within fields of EIEP3

| Character | ASCII |
|-----------|-------|
| 32 | Space |
| 33 | ! |
| 34 | " |
| 35 | # |
| 36 | \$ |
| 37 | % |
| 38 | & |
| 39 | ' |
| 40 | (|
| 41 |) |
| 42 | * |
| 43 | + |
| | |
| 45 | - |
| | |
| 46 | . |
| 47 | / |
| 48 | 0 |
| 49 | 1 |
| 50 | 2 |
| 51 | 3 |
| 52 | 4 |
| 53 | 5 |
| 54 | 6 |
| 55 | 7 |
| 56 | 8 |
| 57 | 9 |
| 58 | : |
| 59 | ; |
| 60 | < |
| 61 | = |
| 62 | > |
| 63 | ? |

| Character | ASCII |
|-----------|-------|
| 64 | @ |
| 65 | A |
| 66 | B |
| 67 | C |
| 68 | D |
| 69 | E |
| 70 | F |
| 71 | G |
| 72 | H |
| 73 | I |
| 74 | J |
| 75 | K |
| 76 | L |
| 77 | M |
| 78 | N |
| 79 | O |
| 80 | P |
| 81 | Q |
| 82 | R |
| 83 | S |
| 84 | T |
| 85 | U |
| 86 | V |
| 87 | W |
| 88 | X |
| 89 | Y |
| 90 | Z |
| 91 | [|
| 92 | \ |
| 93 |] |
| 94 | ^ |
| 95 | _ |
| 96 | ` |

| Character | ASCII |
|-----------|-------|
| 97 | a |
| 98 | b |
| 99 | c |
| 100 | d |
| 101 | e |
| 102 | f |
| 103 | g |
| 104 | h |
| 105 | i |
| 106 | j |
| 107 | k |
| 108 | l |
| 109 | m |
| 110 | n |
| 111 | o |
| 112 | p |
| 113 | q |
| 114 | r |
| 115 | s |
| 116 | t |
| 117 | u |
| 118 | v |
| 119 | w |
| 120 | x |
| 121 | y |
| 122 | z |
| 123 | { |
| 124 | |
| 125 | } |
| 126 | ~ |
| | |
| | |
| | |